

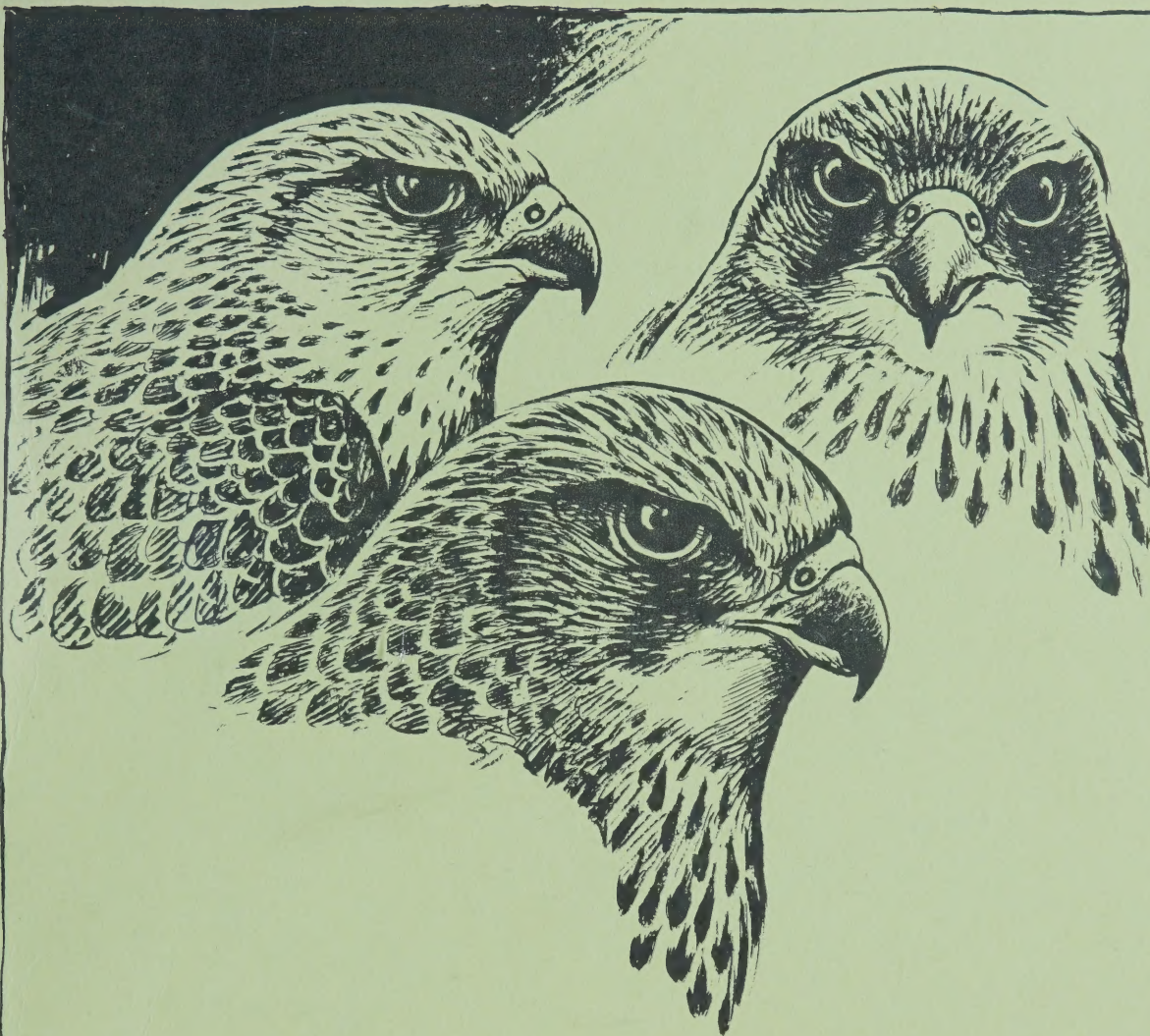
Alberta Naturalist

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Vol. 7 No 1, March 1977



DICK DEKKER

Heads of Gyr falcons. Drawn from mounted specimens at the Alberta Provincial Museum. See article on page ...1

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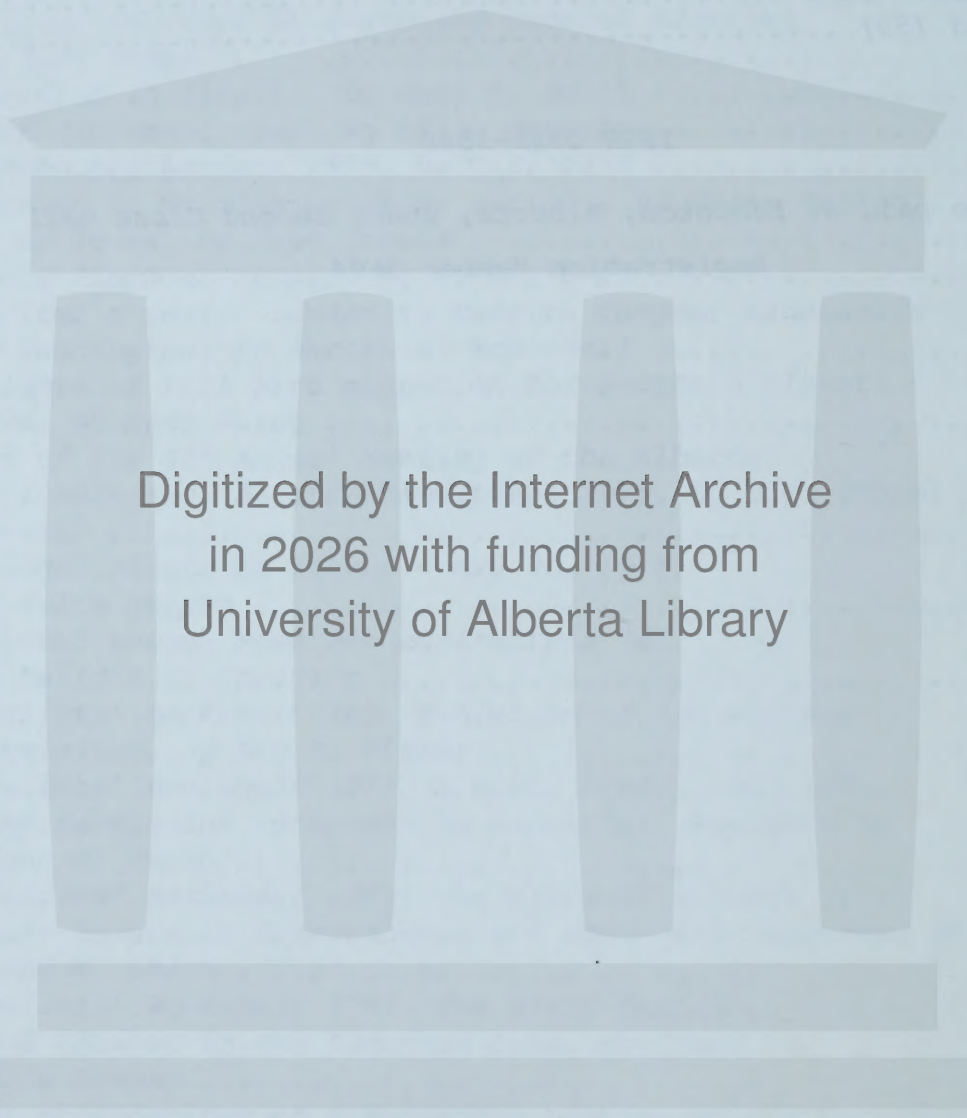
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Overheard (59) 46

ISSN 0318-5540

Postage paid at Edmonton, Alberta, under Second Class mail

Registration Number 3604



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COVER STORY

Editor's Notes:

Once again we welcome a cover and accompanying article from Dick Dekker, one of Alberta's foremost naturalists and nature artists (see Alberta Naturalist 6: 68-73, 1976). Some time ago, I thought that a series of articles on species that are especially tricky to identify should be published in the Alberta Naturalist. When Dick mentioned the possibility of writing the following article, it seemed the ideal beginning of the series, so I urged him to submit it as soon as possible. One of Dick's first loves is falcons, and the following article is based on long experience with a vast number of observations - no less than 78 positive identifications of migrant Peregrines in 1976 alone!

FIELD IDENTIFICATION OF PEREGRINES, PRAIRIE FALCONS
AND GYRS IN SOUTH AND CENTRAL ALBERTA

by Dick Dekker
3819 - 112A Street, Edmonton

The southern half of Alberta lies in that relatively small part of this continent where all three species of the larger falcons may occur simultaneously during certain times of the year. While local bird-watchers are thus fortunate to have a chance of seeing Prairie Falcons as well as Gyrs and Peregrines, the fact that three possibilities need to be considered makes the recognition of any large falcon all the more challenging. The conditions under which many sightings are made leave much to be desired and often do not allow for certain identification. But falcons are glamorous birds; it is natural to want to know what one saw, a Gyr, a Prairie or a Peregrine. Identification is sometimes made on very slim evidence, on impressions rather than on facts. Only

the most conscientious birders have the integrity to state that they saw "a large falcon."

Their relative scarcity makes the large falcons tough subjects to get to know better. Paradoxically, hard-gained knowledge does not make field-identification much easier, on the contrary; the more experience one gains, the more hesitant and careful one becomes in naming a distant falcon.

The pitfalls of distinguishing between the various species are not sufficiently emphasized in the field guides. They tend to simplify and exaggerate differences instead of pointing out confusing similarities. Gyrs are invariably described as very large, without mention of the fact that female Peregrines and Prairies can be or may seem to be just as big as a male Gyr. Peregrines are always pictured as dark brown or slaty-blue above, without the qualifying information that some immatures can be just as pale as an immature Prairie. Illustrations are equally deceptive; Gyrfalcons are rarely depicted with malar bars, whereas some individuals in fact show a pronounced moustachial stripe, comparable in shape to a Prairie's or even a Peregrine's. (See cover illustration).

A more realistic appraisal of field marks of diurnal raptors can be found in a publication by the B.C. Provincial Museum, titled "Field studies of the Falconiformes of British Columbia." It is written and illustrated by talented Frank L. Beebe, who has spent a lifetime studying raptors.

Following are a few quotes from his chapters on the larger falcons.

- . "Where three species can occur together ... any large falcon must be scrutinized very carefully before being assigned certain identification."
- . "The resemblance of young arctic Peregrines to first-year Prairies is marked."

- . "There is little apparent difference in size between a female Prairie Falcon and a male Gyr."
- . "Where their ranges overlap there is no certain way of distinguishing adult female arctic Peregrine Falcons from some grey-phase adult male Gyrfalcons in the field."
- . "Some of the paler coloured brownish first-year Peregrines or Gyrs so closely resemble Prairie Falcons that positive identification depends entirely on whether or not a good view of the underside of the flying bird can be obtained."

In the following notes I would like to present some of my views on the Alberta distribution and field marks of the three species of falcon.

PRAIRIE FALCON

From June to August this species should be the only large falcon occurring on the plains in the southern portion of the province. During summer and fall, unmated individuals roam widely in the mountains. No uncommon over the alpine meadows of Banff Park, where I recorded them on a dozen occasions in July and August of 1959 and 1960. They are also reported from Jasper and Willmore Wilderness Park. In July of 1975, I had a close view of one at the head of Rock Creek, 30 miles south of Grande Cache.

During spring, late summer and fall, up to the end of October, Prairie Falcons regularly turn up in the Edmonton region. At Beaverhill Lake I have seen them hunt shorebirds and attack ducks.

Some Prairies spend the winter months, or part thereof, in the Calgary region. During that time, great care should be taken in identifying any falcon. The black axillars are the only reliable mark for positive field identification of this species.

PEREGRINE

Does not nest anymore in the southern half of Alberta. Captivity-reared birds, recently released into the wild by the C.W.S. and the provincial Wildlife Division, may start to show up in the Edmonton and Calgary regions during the summer of 1977. Northern birds are not rare on migration, especially in spring from the middle of April to the end of May. They pass through on their way south again during a brief period from early September to October.

Typical adults are readily identified when seen in good light: bluish-grey back and dark head, contrasting sharply with white throat and upper breast. The dorsal colouration of immatures is variable, ranging from dark brown to sandy brown. The palest birds belong to the sub-species tundrius. They average smaller than anatum, and their wings are relatively longer. There is a striking difference in the flight silhouette of the two extremes, from the robust immature females of the anatum sub-species on the one hand, to the slender and pale immature males of tundrius on the other. The differential in size and shape is so pronounced that the two birds seem to belong to separate species instead of merely representing geographic races. There is also much variation in colour and markings of undersides and head. The lightest specimens make a very blond impression, more like a Prairie Falcon than a Peregrine. As is the case with the two other species, Peregrines have bright yellow legs in the adult state, dull greenish or bluish ones when immature.

The latest date on which I have seen a Peregrine in central Alberta was October 3, despite much time spent in suitable shoreline habitat during the remainder of the fall. Of late years, persistent rumors about wintertime occurrence of Peregrines have been coming from the Calgary area. Unless these birds were recorded by observers who are thoroughly familiar with Peregrines as well as Gyrs, these winter sightings should be reviewed very sceptically.

Summertime reports from the Banff and Jasper regions should not be considered reliable unless a clear view of the underside of the

birds was obtained, so as to rule out the probability that the falcons in question were Prairies.

GYRFALCON

Although the white phase Gyr is perhaps the easiest raptor to identify, grey phase individuals are no doubt the most difficult. Their large size puts the females in a class by themselves. But size is an unreliable and subjective consideration in the field. Moreover, male Gyrs are not appreciably bigger than the largest Peregrines. Grey phase birds differ in colour from dark brown to sandy, and from brown-grey to bluish-grey. A more consistent fieldmark is the length of the tail. A Gyr's tail sticks out well beyond the tips of the wings and is relatively longer than a Peregrine's or a Prairie's. When it sits on a fence post or perches on a branch, a Gyrfalcon's silhouette is reminiscent of a Goshawk's. In flight, also the shape of the wings, wide at the base, blunt at the tip, remind one of the Gos. But its sustained wingbeat and manner of flight should mark it as a falcon.

Gyrfalcons begin to move south much earlier than is generally supposed, passing through the Edmonton region from mid-September onward. During winter, they may turn up anywhere, but are most likely to be found in localities where Gray Partridges, pheasants or Sharp-tailed Grouse are common. Gyrs are quite regular in the Calgary area. During the two years that I lived in that city, I had the good fortune of encountering half a dozen. I saw a white one mobbed by a Prairie Falcon; a blue-grey adult was hunting ducks; and an immature grey-phase bird attacked a jack-rabbit. The latter incident took place on a cloudy, bitterly cold Christmas Eve. The falcon swooped repeatedly, but everytime its descent was cut short by the hare that jumped up towards it in a dancing motion, dry powder snow blowing. Eventually, the hare took refuge under a barbed wire fence, and the falcon flew to a post. It was not shy at all and allowed me to approach closely, while it retrieved and consumed the frozen remains of a previous meal, a Grey Partridge.

BAT BANDING IN ALBERTA ¹

by Hugh C. Smith
Curator of Mammalogy
Provincial Museum of Alberta

Many people are familiar with the technique of marking of birds with small aluminum leg bands. Through this method of marking large numbers of birds, a great deal of information has been obtained with respect to the paths followed by migratory species, longevity of some species, and distances travelled by individual birds. Because of the success workers have had with bird banding, similar programs were initiated in the study of bats. Several methods of banding bats have been attempted, but the most successful to date is wing banding. This entails the placing of a small metal band on the forearm of the bat.

In 1972 a program of bat banding was started in Alberta by personnel from the Provincial Museum and Fish and Wildlife Branch. As of December 1975 a total of 581 bats had been banded. Eight species of bats are known to occur in the province and of this number six species have been marked with bands. Table I enumerates the species and the numbers of each banded prior to 1976.

Table I -- Number of Bats Banded in Alberta, 1972-1975

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
Little Brown Bat	204	137	29	81
Big Brown Bat	28	-	5	61
Long-eared Bat	-	-	-	23
Small-footed Bat	-	-	9	1
Hoary Bat	1	-	1	1
Silver-haired Bat	-	1	-	-

The number of male and female Little Brown Bats and Big Brown Bats that have been banded in Alberta is given on Table II. The totals for Little Brown Bats in Table II do not agree with those in Table I because the sex was not indicated on some report forms.

¹Natural History Contribution No. 43, Provincial Museum of Alberta

For both these species banding was done at several locations, but the largest number of bats were banded at four sites - three for Little Brown Bats and one for Big Brown Bats. Two of the Little Brown Bat localities were nursery colonies and one a winter hibernaculum. The Big Brown Bat locality was a nursery colony. Banding at nursery colonies was done in May, June and July and at the hibernaculum in October, November, December, April and May.

Table II -- Number of Males and Females Banded for Two Most Common Species

	<u>Females</u>	<u>Males</u>
Little Brown Bat	327	115
Big Brown Bat	75	20

From this work some information has been gathered on the biology of Little Brown Bats in Alberta. One nursery colony was visited on only one occasion, when 64 bats were banded. The other colony was visited several times. This latter colony, located in east central Alberta, has had 233 bats banded in two years of the project. Bats begin to occupy this colony in mid-May and have vacated it by mid-August. The earliest visit we made to this colony was 18 May (1973), at which time two bats were seen and one banded. The latest visit was 24 August (1972); no bats were seen or heard on this date. Table III lists the numbers of bats banded in this colony, as well as the number recaptured.

Table III -- Number of Little Brown Bats Banded and Recaptured at One Nursery Colony in East-Central Alberta

	<u>Females</u>	<u>Males</u>	<u>Recaptured</u>
June 1972	29		
June 1973	124		9
July 1972	70	11	

A further analysis of the data included in Table III is most enlightening. For example, in 1972 the colony was first visited on 27 June. At this time several young bats were observed, but they were much too young to be able to fly and as a result the

only bats handled were adult females. Two weeks later, on 11 July, the colony was again visited; this time both males and females were caught. All the males were immature, but they were capable of sustained flight outside the nursery colony. Fenton (1970) states that it takes three weeks for Little Brown Bats to develop from the new-born state to flying. If this is true for bats in Alberta, then a parturition date of approximately mid-June would be indicated for this colony in 1972.

That the same bats return to the same nursery colony in subsequent years is indicated by the number of bats recaptured. Of the 108 bats banded in 1972 in one colony, nine or 8.33 per cent were recaptured there in 1973. These nine bats were all females. Unfortunately no record was made at the time of initial capture on whether these bats were adult or immature. It is therefore not possible to state whether the recaptures are young returning to the site of their birth or adults who had used the site previously as a nursery. Of the 233 bats banded in this colony three have been picked up by members of the general public. One was located approximately 140 miles west of the banding site two years after being banded; another was picked up within two or three miles of the banding site three years after banding; the third was located at the site of banding one year after banding.

The hibernaculum at which banding has taken place is located in the Cadomin area of western Alberta. The only bats that have been identified in this hibernaculum are Little Brown Bats, 98 of which have been banded. This includes 81 males and 17 females. Eighteen banded bats have been recaptured at the place of banding. No banded bats from this hibernaculum have been recovered away from the banding site.

One nursery colony of Big Brown Bats, in the Stony Plain area, has been visited on more than one occasion. Seventy-three bats have been banded at this colony. Nine of these bats have been recaptured on subsequent visits.

Although bats have been with us for many years, and most people are aware of what a bat looks like, not much is known about their biology, especially here in Alberta. The banding program that

has been initiated is only just beginning to reveal some information on our bats. But the major questions of where they spend the winter, and what routes they use to get there are still not answered.

Literature Cited

Fenton, M.B. (1970). Population Studies of Myotis lucifugus (Chiroptera: Vespertilionidae) In Ontario. Life Sciences Contributions, Royal Ontario Museum #77. pp. 34

THROUGH DIFFERENT EYES

by Allen Ronaghen
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Saskatoon, Saskatchewan

In 1943-1944 I taught school at Bridstow School, a few miles north-east of Islay, Alberta. By that time most sections of land in the area were completely fenced and almost all the readily arable land was cultivated. Most roads were graded but not gravelled, and winter travel by automobile was not common. Whether I walked or drove to school, my route took me over the shoulder of a sudden little hill, which I often intended to climb, but somehow never did. This hill was at that time considered too steep for cultivation.

About one-quarter of a mile to the east of the school and easily visible to me as I taught school, was a deep little water-course, known locally as "the coulee." My students said it ran into the Vermilion River, not far to the north.

At the end of a very enjoyable year, I left to attend university. It so happened that I seldom returned to the Islay area, but when my wife and I finally did make a return trip, I was shocked to see all the changes that had taken place. The school was gone, as was

a farm-stead which had been just north of the school yard, and both places were under cultivation. "The coulee", long an obstacle to travel at certain seasons, was now crossed by a good, all-weather road.

At a certain point in my teaching career after leaving Bridstow, I became interested in my country's history, and began to read as much as I could find on the subject. In Coues' "New light on the history of the North-west" I encountered references to "The Elbow" of the Vermilion River, to Painted Feather's Buffalo Pound, and to a visit Alexander Henry The Younger paid to the pound in 1809. Henry wrote of visiting "Lookout Hill." Careful study of maps revealed that all these places must be very close to my residence of 1943-1944. But where were they? Where were "The Elbow", "The Pound", and "Lookout Hill"? Nobody had ever mentioned such places when I lived in the district.

I determined to pay another visit to the area. This time I left the car over the shoulder of the hill I had crossed so frequently, and climbed to the top. As I climbed, a new view of the country opened up before me! True, the cultivated fields remained as cultivated fields, but everything else took on a different aspect. I realized that immediately in front of me and to my left as I looked to the east was what must have been a perfect locality for a buffalo pound. The watercourse joined the valley of the Vermilion in a deep coulee with steep banks, ideal for driving buffalo to their deaths.

My reading had taught me to look at the scene through different eyes. With a little imagination one could see the teepees at the elbow of the Vermilion, the buffalo grazing to the east of the coulee, the Blackfeet by bluffs of trees waiting for the wind to be right before making themselves known to the buffalo, and frightening them into running over the coulee's steep banks (Sections 1-52-4W4 and 6-52-3W4).

How often I have wished that I had known about "Painted Feather's" pound when I taught at Bridstow. How easy it would have been to visit this site, where so many bones have been found, the lookout hill, or the flats of the Vermilion where the Blackfeet camped! We could all have looked at the familiar scene "through different eyes."

FAN PHENOLOGY PROJECT 1976

by C.D. Bird

This is the fourth year of the FAN Phenology Project. Previous results were summarized in the Alberta Naturalist (5:3-27) one year ago. Participation in the project has, once again, been active with 129 individuals taking part.

The purpose of the project is that of determining the average flowering period of a selected group of easily determined, native plants so that the data can be employed in a variety of ways such as determining the earliness or lateness of a spring or early summer, arriving at phenological dates that can be utilized as guidelines for agricultural (e.g. when to plant barley) or natural history activities, the comparison of the phenology of various parts of the province, and the testing of various bioclimatic theories.

The project started with the recording of data on 100 species. The present summation deals with only 77. Deletions have been made primarily on the basis of numbers of reports and certainty of identification.

The addition of the Fort Vermilion Area increases the number of reporting areas from 26 to 27. The locations in each for which there are 1976 reports, are (1) Waterton Lakes National Park; (2) Milk River - Heninger's Reservoir, Writing-on-Stone Provincial Park; (3) Cardston - Police Outpost Provincial Park; (4) Crowsnest Pass - Beaver Mines, Carbondale, Crowsnest Pass, Grassy Mountain, Gravenstafed Lake; (5) Cypress Hills Provincial Park; (6) Lethbridge - Fort Macleod, Monarch, Picture Butte; (7) Medicine Hat - Brooks, Dinosaur Provincial Park, Suffield Military Reserve; (8) Porcupine Hills - Calgary, High River, Porcupine Hills; (9) Turner Valley - Black Diamond, Bragg Creek, Brown-Lowery Natural Area, Chain Lakes Provincial Park, Longview, Millarville, Priddis, Scott Lake; (10) Bow-Crow Forest Reserve - Barrier Lake, Beaver Flats, Gorge Creek, Highwood House, Highwood Pass, Moose Mountain, Plateau Mountain, Ware Creek; (11) Calgary - Balzac, Beddington, Calgary, Carstairs, Cochrane, Crossfield, DeWinton, Didsbury, Dogpound, Morley, Olds, Springbank, Wildcat Hills; (12) Canmore - Bow Valley Provincial Park, Canmore, Exshaw, Grotto Mountain, Lac des Arcs, Little Green Mountain, Mt. Lady Macdonald, Pigeon Mountain, Seebe, Yamnuska; (13) Drumheller - Beiseker, Beynon, Carseland, Chestermere, Dalemead, Drumheller, Finnegan's Ferry, Hussar, Irricana, Rockyford, Standard, Strathmore; (14) Banff

		Waterton Lakes National Park	Milk River Area	Cardston Area	Crowsnest Pass Area	Cypress Hills Provincial Park
Elevation		4200'	3200'	4400'	4200'	4100'
mid-spring	<i>Anemone patens</i> var. <i>wolfgangiana</i>		My 1		Mr29-My24	My15-Jn 3
	Prairie Crocus				My24	
	<i>Populus tremuloides</i>					
	Aspen					
	<i>Fritillaria pudica</i>		Ap20-My11		My 8-Jn11	
late spring	Yellow Bells					
	<i>Viola adunca</i>	Jn11	My 1		My 8-Jn11	My10-Jn13
	Early Blue Violet					
	<i>Shepherdia canadensis</i>		Ap18			Jy 9
	Canada Buffalo-berry					
	<i>Ranunculus rhomboideus</i>		Ap10-Ap18			My13-Jn 3
	Prairie Buttercup					
	<i>Thermopsis rhombifolia</i>	Jn11	Ap18-My11	Jy26	My 8-My24	My10-Jy17
	Golden Bean					
	<i>Potentilla concinna</i>				My 8-My24	My13-Jy15
	Early Cinquefoil					
	<i>Phlox hoodii</i>	Jn11	Ap10-My11		My 8-My24	My15-My20
	Moss Phlox					
	<i>Geum triflorum</i>	Jn11	My11		My 8-Jn11	My10-Jy15
	Three-flowered Avens					
	<i>Viola nuttallii</i>		Ap18-My11		My 8-My24	My13-Jn10
	Yellow Prairie Violet					
	<i>Populus balsamifera</i>					
	Balsam Poplar					
	<i>Androsace septentrionalis</i>		My 1		My15-Jn11	My12-Jy 2
	Fairy Candelabra					
	<i>Arctostaphylos uva-ursi</i>	Jn11			Jn11	My13-Jy17
	Common Bearberry					
	<i>Fragaria virginiana</i> var. <i>glauca</i>	Jn11			My 8-Jy10	My12-Jy15
	Wild Strawberry					
	<i>Amelanchier alnifolia</i>	Jn11	My 1-My11		My 8-Jn11	My15-Jn10
	Saskatoon-berry					
	<i>Viola rugulosa</i>	Jn11			My15-My24	My11-Jy24
	Western Canada Violet					
	<i>Disporum trachycarpum</i>					My16-Jn11
	Fairy Bells					
	<i>Smilacina stellata</i>		My 1-My11		My 8-Jn11	My24-Jn10
	Star-flowered Solomon's-seal					
	<i>Prunus pensylvanica</i>					My30
	Pin Cherry					
	<i>Corydalis aurea</i>	Jn11			Jn11	My20-Jy14
	Golden Corydalis					
	<i>Caltha palustris</i>					
	Marsh Marigold					
	<i>Calypso bulbosa</i>				My15	My15-Jn10
	Calypso Orchid					

Lethbridge Area	Medicine Hat Area	Porcupine Hills Area	Turner Valley Area	Bow-Crow Forest Reserve Area	Calgary Area	Canmore Area	Drumheller Area
3100'	2200'	3500'	3900'	6000'	3500'	4200'	2300'
Ap 5-Ap23	Ap22	Mr22-My30	Ap13-My30	Mp18-My30	Mr31 Se25	Ap 4-Jn19	Ap 1-Jy19 Se16
		My 8-My16	Ap25	Ap18	Ap 2-Ap30	Ap11-My16	Ap 4-Ap13
Ap 5-Ap23		My 3-My30					
My12-My23	My12	Ap25-Jn 9 Se 2-Se18	My 9-My30	My15-Jn19	Ap25-Se16	Ap29-Jn21	Ap27-My29 Se16
Ap14-Ap23		My30	Ap25-My30	My30	Ap11-My12	Ap24-My30	Ap15-My 3
		Ap16-My 4	Ap24	My15-My16	Ap18-Jy25	My16	Ap19-My19
Ap14-My30	Ap15-My12	Ap17-Jy 4 Se 2-Cc 4	My30	My16	Ap12-Jn27 Se 26	My 9-My30	Ap16-Jy25
Ap14-My12		Ap10-Jn10		My16-My22	Ap 7-Jy 2 Se26	Ap25-Jy 3	Ap19
Ap 5-Ap23	Ap22-Jy22	Ap10-Jn 8 Se 1-Se 8		My22 Se 7	Ap 4-My28 Se14	Ap14-My30	Ap11-My29
Ap 5-My30	Ap22	Ap26-Jy12	Ap24-Jy 4	My15-Jn21	Ap29-Jy 3	My 7-Jy20	Ap16-My29
Ap14-My12	My12	Ap27-Jn 6	My30	My15-My22	Ap23-My28		Ap16-Ap29
		My 9-My16	Ap25	Ap18	Ap12-Ap29	Ap14-My 9	
	My12	Ap17-Jn10	Ap25-Jn27	Ap18-Jn21	My 9-Oc12	Ap14-Jy10	Ap16-Jy19
		My 4-Jn10	My30	My15-Jn29	Ap13-Jn26	My 1-Jy20	My16-My29
My23		My 3-Se 7	Jn27-Se18	My15-Se19	Ap29-Se29	My 8-Se12	My16-Jy19
My 2-My23		My 7-Jn22	My30	My22-Jn22	My 3-Jn25	My 9-Jy 3	My 3-My29
		My30-Se18		My15-Jn29	My 2-Se11	My15-Jy18	My16-Jn22
		My30-Jn20	My30	My30	My 8-Jn19	My16-Jn19	My29
My12-My30		My13-Au14	My30	My22-Jy 6	My 7-Jn21	My16-Jy10	My16-Jn22
				Jn12		My 9-My30	My10
		My18	Jy 4	Ap18- 19	Ap30-Jy 1	Ap14-Jy10	My29-Jn 2
		My30-Jn30	My30	My30-Jn21		My16-My30	

Elevation		Banff National Park	Red Deer Area	Rocky Mountain House Area	Wainwright- Vermilion Area	Stettler Area
		4500'	2800'	4000'	2000'	2700'
mid-spring	<i>Anemone patens</i> var. <i>wolfgangiana</i>	Ap11-Jn 8	Ap 3-My20	My 1-Jy 7	Ap 8-Ap16	Ap 4-Jy10
	Prairie Crocus					
	<i>Populus tremuloides</i>	My 8	Ap 9-Ap12	My 1-My29	Ap11-Ap16	Ap 9
	Aspen					
	<i>Fritillaria pudica</i>					
late spring	Yellow Bells					
	<i>Viola adunca</i>	My 7-Jy28	Ap25-Jn10	Ap31-Jn18 Au24-Se10	My 5-Jn16	Ap29-My30
	Early Blue Violet					
	<i>Shepherdia canadensis</i>	My 7-Jn19	My 3-My 9	My 1-Jn 5		My 1-My15
	Canada Buffalo-berry					
	<i>Ranunculus rhomboideus</i>		Ap25-My20	My 1-Jn13 Se19	Ap27	Ap22-My23
	Prairie Buttercup					
	<i>Thermopsis rhombifolia</i>		My 1-Jy29 Se19	Ap16-Se10	My 7-Jn16	My 2-Jyl7
	Golden Bean					
	<i>Potentilla concinna</i>	My30-Jn 1	My 5-Jn 1	My 9-Au28	My15	My16-My30
	Early Cinquefoil					
	<i>Phlox hoodii</i>				My 7	My 5
	Moss Phlox					
	<i>Geum triflorum</i>	My30-Jy29	My 9-Jy20	My 8-Au 2	Jn16	My 5-Jy 2
	Three-flowered Avens					
	<i>Viola nuttallii</i>	Jy 3	My 2			Ap30-My 6
	Yellow Prairie Violet					
	<i>Populus balsamifera</i>	My 8	Ap12-Ap26	My 8-Jn12		
	Balsam Poplar					
	<i>Androsace septentrionalis</i>	My 8-My30	My 5-My16	My16-Au22	My15	My 8-Jn 6
	Fairy Candelabra					
	<i>Arctostaphylos uva-ursi</i>	My 7-Jy28	My 4-My23	My 8-Jy24		
	Common Bearberry					
	<i>Fragaria virginiana</i> var. <i>glauca</i>	My 8-Se19	My 5-Jy 4	Ap18-Oc10	My15-Jn28	My 5-Jy 6
	Wild Strawberry					
	<i>Amelanchier alnifolia</i>	My30-Jn23	My 9-Jn 4	My19-Jy22	My 7-My15	My 5-My30
	Saskatoon-berry					
	<i>Viola rugulosa</i>	My19-Jy 3	My 3-Jy29	My 2-Oc11		My18-Au 6
	Western Canada Violet					
	<i>Disporum trachycarpum</i>	My19-Jy13	My 7-Jn 6			My 8-My24
	Fairy Bells					
	<i>Smilacina stellata</i>	My19-Jn29	My26-Jn10	My24-Jn23	Jn16	My24-Jn 6
	Star-flowered Solomon's-seal					
	<i>Prunus pensylvanica</i>		My26			My15-My30
	Pin Cherry					
	<i>Corydalis aurea</i>	My19-My30	My 4-Jy 4	My15-Au22	My15	My27-Jn 6
	Golden Corydalis					
	<i>Caltha palustris</i>		My19-My23	My15-Jn12		
	Marsh Marigold					
	<i>Calypso bulbosa</i>	My19-Jyl1		My15-Jn28		
	Calypso Orchid					

Camrose Area	Jasper National Park	Edmonton Area	Whitecourt Area	Athabaska Area	Cold Lake Area	Peace River Area	Fort McMurray Area	Fort Vermilion Area
2400'	3500'	2200'	2200'	1900'	1800'	2200'	1000'	900'
		Mr30-Apr11	Ap25-May 2		Au25	Ap 7	Ap24-May19	
	My11	Ap 7-Apr27					Ap19-May17	
	My13-Jn 4	Ap27-Au28	My 1-Jn11		My 9		My 3-May30	
	My11-Jn 4	Ap27-May21	Ap18-May 1		My 2		Ap19-Jy12	Jy25
Ap20		My15			My 2			
		My 9-Jn12			My 9-Jn 8			
					My 9		My12-Jy12	
Jn 2	Au 9	My30			My 2-Jn30		Jn26	
	My11	Ap14-Jn 6	Ap18		My 2		My12-May17	
My 9	My22	My15-May30	My23		My 2		Jn13	
	My11-Jn 4	My16	My15		My24-Jn 9		My11-Jy12	Jy10
My22	My12-Au 9	My 5-Au14	My 8-May29	My 7-May 8	My 9-Jy 6	Jn28-Se 3	My 3-Jy19	Jy16-Jy25
My22-Jn 2	My22-Jn 4	My 9-Jn 1	My 8-May15	My19	My16		My12-Jy12	
		Ap27-Jy31			Jn 8-Jy 6		My17-Jn21	
My 9-May22		My19-May30					My29-May30	
My22	Jn 4	My15-Jn12	My23		Jn 8		My17-May29	
My22		My15-Jn 4	My 8-May29		My16		My11-Jy12	
		Ap30-Jn27	My 8		Jn 8-Jy 3		My 3-Jy12	
Jn2	My11	My 2-May23	My 8-May29		My 9-Jn 9		My11-May30	
	My22-Jn 4						My12-May30	

		Waterton Lakes National Park	Milk River Area	Cardston Area	Crowsnest Pass Area	Cypress Hills Provincial Park
Elevation		4200'	3200'	4400'	4200'	4100'
late spring	<i>Clematis verticellaris</i> var. <i>columbiana</i> Purple Clematis	Jn11			My15-Jn11	My11-Jy10
	<i>Prunus virginiana</i> var. <i>melanocarpa</i> Choke Cherry		My 1-My11		My 8	My10-Jy17
	<i>Cerastium arvense</i> Field Chickweed	Jn11	My31-Jn 6		My 8-Jn11	My13-Jy17
	<i>Penstemon nitidus</i> Smooth Blue Beard-tongue		My11		My 8-Jn11	My15-Jy17
	<i>Balsamorhiza sagittata</i> Balsam Root	Jn11			My 8-Jn11	
	<i>Maianthemum canadense</i> var. <i>interius</i> Wild Lily-of-the-valley					
	<i>Comandra pallida</i> Pale Comandra	Jn11	My11-Jn 9			Jn 1-Jy 2
	<i>Viburnum edule</i> Low Bush Cranberry					Jn 8-Au 3
	<i>Lithospermum ruderale</i> Woolly Gromwell	Jn11			My 8-Jn11	My13-Jy15
	<i>Zizia aptera</i> Heart-leaved Alexanders			Jy26	My15	My15-Jy15
	<i>Anemone multifida</i> Cut-leaved Anemone		My31-Jn24		My24-Jy10	My20-Jy28
	<i>Smilacina racemosa</i> var. <i>amplexicaulis</i> False Solomon's-seal				My 8-Jy16	My23-Jy15
	<i>Mertensia paniculata</i> Tall Lungwort					
	<i>Elaeagnus commutata</i> Wolf Willow					My29-Jn21
	<i>Arnica cordifolia</i> Heart-leaved Arnica				Jn11-Jy16	My29-Jy17
	<i>Lathyrus ochroleucus</i> Yellow Pea Vine					My20-Jy17
	<i>Allium textile</i> Prairie Onion	Jn11	My11-Jn 6	Jy26		My20-Jy31
	<i>Thalictrum venulosum</i> Veiny Meadow Rue	Jn11			My24	My27-Jy15
	<i>Senecio canus</i> Silvery Groundsel		My31-Jy20			
	<i>Lonicera dioica</i> var. <i>glaucescens</i> Twining Honeysuckle					Jn10
	<i>Sisyrinchium montanum</i> Blue-eyed Grass			Jy26		My15-Jy10
	<i>Anemone canadensis</i> Canada Anemone					Jn21-Jy15
early summer						

Lethbridge Area	Medicine Hat Area	Porcupine Hills Area	Turner Valley Area	Bow-Crow Forest Reserve Area	Calgary Area	Canmore Area	Drumheller Area
3100'	2200'	3500'	3900'	6000'	3500'	4200'	2300'
		My16-Jn20	My30	My22-Jy 6	My 7-Jy 1	My 9-Jy10	My20
My23-My30		My30-Jn23		Jn19	My 3-Jn21	My30-Jy10	My16-My29
My 7		My 4-Se18	Jn27-Jy 5	My15-Jy24	My28-Jy 3	My16-Sp12	My16-Jy25
Ap23-My30		My 8-Jn 9	My30	My22-Jn21	My11-My29	My30	My16-My29
		My 9-Jn 9					
			My30				
Ap23-Jy 1		Ap29-Jy 4	Jy 4	Jn11-Jn19	My12-Jy 1	My30-Jy20	My16-Jn22
				Jn15-Jn19	Jn19	My30-Jy10	
My 6-My23		My13-Au14	Jn27-Jy 4	My22-Jn19	My 7-Jy 3	My16-Jy10	
My23-Jy 1		My17-Jy12	Jn27-Jy 5	My15-Jn29	My15-Jy25	My16-Jy18	My16-Jn22
My 2-Jy 1		My 5-Jy 4	Jn27-Jy 5	Jn15-Au 9	My 7-Oc 3	My 9-Jy20	My19-Jn22
		My30-Jn20	Jy 5-Jy 7	Jn19-Jy 6		My30-Jy10	My29-Jn22
			Jy 7-Au22	My30-Jy22	My 1-Jn24	My18-Jy18	
My30		My30-Jn29	Jn27-Jy 5	Jn15-Jy 6	My28-Jy25	My30-Jy10	My21-Jn22
		Jn 8-Jy 4	Jy 5-Jy 8	My30-Se16		My30-Jy10	
My23		My19-Jy 4	Jn27-Jy 5	Jn15-Jy 6	My29-Jy25	My16-Jy18	My29
My12-Jn14		My18-Jn22		Jn21	My28-Au 7		Ap16-My29
		My10-Jy 4		My15-Jy24	My15-Jy 3	My30-Jy10	My29-Jn22
My 2-Jy12		My20-Jy 4	Jn27-Jy 5	Jn19-Au 9	My29-Au 5	Jn 8-Jy13	Jy 6-Jy21
			Jn27-Jy 5		Jn 2-Jy24	Jn18-Jy13	My23-Jn22
My23-Jy 1		My16-Jy12	Jn27-Jy 5	Jn11-Jn29	Jn 2-Jy24	Jn 8-Jy18	Jn 1-Jn22
Jy 1		My18-Se18	My30-Jy 4	Jn11-Jn19	My28-Se14	Jn20-Jy10	My23-Jy25

		Elevation	Banff National Park	Red Deer Area	Rocky Mountain House Area	Wainwright- Vermilion Area	Stettler Area
			4500'	2800'	4000'	2000'	2700'
late spring	<i>Clematis verticellaris</i> var. <i>columbiana</i> Purple Clematis		My30-Jy25	My20-Jn20	My30		
	<i>Prunus virginiana</i> var. <i>melanocarpa</i> Choke Cherry			My15-Jn 4	My29-Jn13		My15-My30
	<i>Cerastium arvense</i> Field Chickweed		My30-Jy 7	My12-Jy29	My16-Oct11	Jn16-Jyl7	My 6-Jy 2
	<i>Penstemon nitidus</i> Smooth Blue Beard-tongue		Jn 1			Jyl7	My13-Jn19
	<i>Balsamorhiza sagittata</i> Balsam Root						
	<i>Maianthemum canadense</i> var. <i>interius</i> Wild Lily-of-the-valley			My29-Jyl1	My22-Jy 8	Jn16	My30
	<i>Comandra pallida</i> Pale Comandra			My20-Jn20	My23-Jy 8	Jn16	My23-Jn 6
	<i>Viburnum edule</i> Low Bush Cranberry		My30-Jn12	My30-Jn 4	My 8-Jn12		
	<i>Lithospermum ruderales</i> Woolly Gromwell				My15		
	<i>Zizia aptera</i> Heart-leaved Alexanders		Jn12-Jy29	My25-Jy29	My16-Jy24		My23-Jyl8
	<i>Anemone multifida</i> Cut-leaved Anemone		My19-Jy25	My15-Jy 4	My29-Au 2		My13-Jy 2
	<i>Smilacina racemosa</i> var. <i>amplexicaulis</i> False Solomon's-seal			My30	Jn 3		My30
	<i>Mertensia paniculata</i> Tall Lungwort			My15-Jy 4	My22-Jy31		My30
	<i>Elaeagnus commutata</i> Wolf Willow		Jn12-Jy 7	My26-Jy 4	Jn 4-Jn23	Jn16	My30-Jn 6
	<i>Arnica cordifolia</i> Heart-leaved Arnica		My30-Au17	My30-Jy29	My30-Se 5		
	<i>Lathyrus ochroleucus</i> Yellow Pea Vine		Jn29-Jy27	My24-Jy18	My24-Se10	Jn16-Jyl7	My15-Jn16
	<i>Allium textile</i> Prairie Onion			My20-Jy29			My30
	<i>Thalictrum venulosum</i> Veiny Meadow Rue		Jn19-Jy25	My20-Jy20	My24-Au 2		My30-Jn16
	<i>Senecio canus</i> Silvery Groundsel		Jy27-Au17	Jn20	Jy 8-Jy24		
	<i>Lonicera dioica</i> var. <i>glaucescens</i> Twining Honeysuckle			My15-Jy 4	My28-Jyl9	Jn16	My30-Jn 6
	<i>Sisyrinchium montanum</i> Blue-eyed Grass		Jn29	My26-Jy 8	My29-Au28	Jn16-Au 4	My24-Jy 2
	<i>Anemone canadensis</i> Canada Anemone		Jyl7	My15-Au 7	Jn18-Au28	Jn28	Ap 4-Jyl7
early summer							

Camrose Area	Jasper National Park	Edmonton Area	Whitecourt Area	Athabaska Area	Cold Lake Area	Peace River Area	Fort McMurray Area	Fort Vermilion Area
2400'	3500'	2200'	2200'	1900'	1800'	2200'	1000'	900'
My 9-My22	My22	My14-My16						
Jn 2		My14-Jn 4	My23-My29				My19-My29	
	My31-Au 9	My15-Jn11			Jn 8-Jy 3		My12-Jy12	
My28-Jn 2		My15-Jn12	My29		My 7-Jn17	Jy 1-Jy 6	My29-Jy12	Jy10
					Jn 8-Jy 1		My12-Jy12	
Jn 2	Jn 5	My15-Jy 3	My29	My19	My24-Jy 6	Jy 6	My17-Jy12	Jy25
		Jn12-Jn20			My24-Jy 3			
	Jn 4	Jn 1			Jn30-Jy 3		My30	
Jn 2	My26		My29-Au 7					
My22-Jn 2	Jn 5-Au 9	Ap19-Jn27	My23-Jn11		My24-Jy 6	Jn28-Jy 6	My17-Jy19	
	Jn 4	My30-Jn15	My29				My12-Jn13	Jy26
	My26-Au 9		My29			Jy 1	Jn13-Jn14	Jy17
My28-Jn 2	My15-Au 9	My17-Jn27	My29		My 7-Au 4	Jn28-Jy28	My28-Jy19	Jy10-Jy25
	Jn 3							
Jn 2		My15-Jn20	My23-My29		My 7-Jn 9		My17-Jn21	
My22		My28-Jn16	My29		My 7-Jn17		My19-Jn26	
Jn 2-Jy 2		Jn 6-Jn12			Jn 8-Jy 6		Jn 6-Jy12	
Jy13	My13	My16-Jy18			Jn 8-Jy15		Jn21-Jy12	Jy 8

	Elevation	Waterton Lakes National Park	Milk River Area	Cardston Area	Crowsnest Pass Area	Cypress Hills Provincial Park
		4200'	3200'	4400'	4200'	4100'
<i>Linum lewisii</i> Wild Blue Flax		Jn11-Au 9	My31-Jn 9			My29-Jyl7
<i>Dryas drummondii</i> Yellow Dryas						
<i>Lonicera involucrata</i> Bracted Honeysuckle			My31		Jn 4-Jyl10	
<i>Ledum groenlandicum</i> Labrador Tea						
<i>Geranium viscosissimum</i> Sticky Purple Geranium		Jn11		Jy26	Jn11	Jn 8-Au14
<i>Rubus strigosus</i> Wild Red Raspberry					Jy10	Jn11-Jyl15
<i>Hedysarum mackenzii</i> Mackenzie's Hedysarum						Jn10-Jyl17
<i>Cornus canadensis</i> Bunchberry					Jy10	Jn10-Jyl17
<i>Galium boreale</i> Northern Bedstraw		Au 9		Jy26	Jy16	Jn18-Au 1
<i>Achillea millefolium</i> ssp. <i>lanulosa</i> Common Yarrow		Au 9	My31-Jy20		My24	Jn11-Au14
<i>Castilleja miniata</i> Common Red Paintbrush		Jn11-Au 9		Jy26	Jn11-Jyl16	Jn21-Au14
<i>Zygadenus elegans</i> White Camas		Jn11				Jn 1-Jyl17
<i>Oxytropis splendens</i> Showy Locoweed		Au 9	My11	Jy26	My 8-Jyl10	My15-Jy 1
<i>Pyrola asarifolia</i> Common Pink Wintergreen		Au 9			Jy10	Jn13-Jy28
<i>Lilium philadelphicum</i> var. <i>andinum</i> Western Wood Lily						
<i>Hedysarum alpinum</i> Alpine Hedysarum				Jy26		Jy 2
<i>Eriogonum flavum</i> Yellow Umbrella-plant		Au 9	My31-Jy 7	Jy26	Jn11	Jn21-Jyl17
<i>Heracleum lanatum</i> Cow Parsnip		Jn11-Au 9		Jy26	Jy10	Jn 8-Au 3
<i>Pedicularis groenlandica</i> Elephant Head				Jy26		
<i>Linnaea borealis</i> var. <i>americana</i> Twin-flower						Jn21-Jyl17
<i>Castilleja septentrionalis</i> Common Yellow Paintbrush		Jn11		Jy26		Jy24
<i>Symphoricarpos occidentale</i> Western Snowberry		Jn11	Jy 7-Jy20			Jy 9-Au 3
<i>Gaillardia aristata</i> Brown-eyed Susan			Jn 6-Jy20	Jy26		Jn11-Au14

early summer

Lethbridge Area	Medicine Hat Area	Porcupine Hills Area	Turner Valley Area	Bow-Crow Forest Reserve Area	Calgary Area	Canmore Area	Drumheller Area
3100'	2200'	3500'	3900'	6000'	3500'	4200'	2300'
My12-Jy 1	Jy13	Jn20-Se20	Jn27-Jy 4	Jn11-Oc12	My24-Se29	My30-Se12	My29-Jy19
My23-My30			Jy 5	My30-Jy 6		My16-Jy20	
		Jy 4		My15-Jy24		My16-Jy13	
				Jn15-Jy 6		Jy13	
		My30-Jy12	Jn27-Jy 4	My22-Se23	My28-Oc 3	Jn19-Jy13	
		Jy 4	Jy 5	My16-Jn19	Jn25	Jn18-Jy10	
My30		Jn20		Jn15-Au 1	My 7-Sp26	My 9-Jy20	My29-Jn19
		Jn20-Jy 4	Jy 5	Jn15-Au14		Jn21-Jy10	
		Jn18-Au14	Jn27-Au22	Jn19-Au 9	My28-Au 5	Jn18-Se12	My29-Au 7
My12-Jy12	Jy13-Jy22	Jn18-Oc 4	Jn27-Se18	Jn15-Oc12	Jn 2-Oc12	Jn18-Se14	My29-Au23
		Jn26-Se26	Jy 5-Au22	My30-Se26	Au28	My17-Se14	
		Jn26-Jy12	Jy 4-Jy 5	Jn19-Au 2	Jn 2-Jy25	Jn15-Jy20	Jn17-Jy19
		Jn20-Se16	Jn27-Jy 4	My30-Au 2	Jn 2-Au 5	Jn19-Jy18	Jy 3-Jy25
		Jy 4	Jy 5-Au 8	Jn19-Au 1	Jn 2-Au 5	Jn20-Jy13	Jn17-Jy19
		Jn20-Jy12	Jy 4-Jy 5	Jn19-Au 1	Jn 2-Jy11	Jn 8-Jy20	Jn23-Jy19
Jy 1		Jn22-Jy12	Jn27-Au22	My15-Au 9	Jn 2-Au 5	My30-Jy18	My29-Jy 3
My30-Jy12		Jn 4-Jn18	Jy 4		My28-Au 5	Jy 3	Jn12-Jy19
My30		Jn26-Se18	Jy 4-Au22	Jn19-Au14	Jn 2-Au 5	Jn18-Jy18	
			Jy 5	Jn19-Au 2	Jy 4-Jy18	Jn19-Jy13	
		Jy 4		Jn19-Au14		Jy 8-Jy10	
		Jn 1-Jy12	Jn27-Jy 4	Jn11-Jy 6	Jn 2-Jy25		Jn25-Jy19
Jy 2-Jy12	Jy13-Jy22	Jy 4			Jn21-Au 5	Jy10-Jy18	Jy 3-Jy25
My30-Jy12	Jy13-Jy22	Jn18-Se23	Jn27-Au22	Jn19-Se23	Jn 2-Oc 3	Jn18-Se14	Jn22-Au 7

	Elevation	Banff National Park	Red Deer Area	Rocky Mountain House Area	Wainwright- Vermilion Area	Stettler Area
		4500'	2800'	4000'	2000'	2700'
early summer	<i>Linum lewisii</i> Wild Blue Flax	Jy27-Jy28	Jn20-Jy29	Jn13-Sp25	Au 5	My30-Au 3
	<i>Dryas drummondii</i> Yellow Dryas	My30-Au17		Jn23		
	<i>Lonicera involucrata</i> Bracted Honeysuckle	My30-Jy27	My15-Jn10	My28-Jn12		Jy 2
	<i>Ledum groenlandicum</i> Labrador Tea	Jy 7-Jy27	My23	My28-Jy24		
	<i>Geranium viscosissimum</i> Sticky Purple Geranium	Jy 7	Jy29	Jy10-Au18		
	<i>Rubus strigosus</i> Wild Red Raspberry	Jn19-Au17	My30-Jy20	My29-Au 2		
	<i>Hedysarum mackenzii</i> Mackenzie's Hedysarum	Jn 1-Jy13	Jn10-Jy18	My28-Au10		My30
	<i>Cornus canadensis</i> Bunchberry	My30-Au17	My20-Jy 4	My29-Se19		My30
	<i>Galium boreale</i> Northern Bedstraw	Jy 7-Au17	Jn11-Au15	Jn13-Se19	Jn28-Au 5	My30-Au 3
	<i>Achillea millefolium</i> ssp. <i>lanulosa</i> Common Yarrow	Jy 7-Se19	Jn10-Se19	My29-Oct17	Jn28-Au 5	My30-Au 6
	<i>Castilleja miniata</i> Common Red Paintbrush	My24-Au17	Jy18-Jy29	My21-Se25		
	<i>Zygadenus elegans</i> White Camas	Jy15-Au17		My29-Au19		
	<i>Oxytropis splendens</i> Showy Locoweed	Jn29-Jy27	My20	Jn12-Au 2	Jn28	
	<i>Pyrola asarifolia</i> Common Pink Wintergreen	Jy 7-Au17	Jn 1-Jy29	My29-Au 2	Jn16	Au 3
	<i>Lilium philadelphicum</i> var. <i>andinum</i> Western Wood Lily		Jn10-Jy18	Jn18-Jy17	Jn28	Jn24-Jy 6
	<i>Hedysarum alpinum</i> Alpine Hedysarum	Jy15-Jy28	Jn20-Au 7	Jn18-Se 4	Au 4	My30-Jn27
	<i>Eriogonum flavum</i> Yellow Umbrella-plant		My20-Jn20			
	<i>Heracleum lanatum</i> Cow Parsnip	Jy 7-Jy11	Jn13-Jy29	Jn23-Se10		My24
	<i>Pedicularis groenlandica</i> Elephant Head	Jy13-Jy25	Jn10-Jn25	Jn18-Au 2		
	<i>Linnaea borealis</i> var. <i>americana</i> Twin-flower	Jy15-Au17	My30-Jy29	Jy 8-Au22		My30
	<i>Castilleja septentrionalis</i> Common Yellow Paintbrush	Jn12-Jy17		Jn23-Au 2		
	<i>Symphoricarpos occidentale</i> Western Snowberry		Jn20-Jy29	Au20		My23-Jy28
	<i>Gaillardia aristata</i> Brown-eyed Susan	Jy 7-Au17	Jn20-Se19	Jy 6-Se25	Jn28-Au 4	Jn16-Au 3

Camrose Area	Jasper National Park	Edmonton Area	Whitecourt Area	Athabaska Area	Cold Lake Area	Peace River Area	Fort McMurray Area	Fort Vermilion Area
2400'	3500'	2200'	2200'	1900'	1800'	2200'	1000'	900'
	My19-Jn 1							
Jn 2	Au 3	My16-Jn 6	My23-My29	My19	Jy 3-Jy 6	Jn30-Jy 6	My11-My30	
My15	Jn 4-Au 9	My28-Jn 6	My23-Jn 4		My 7-Jy 6	Jn28	My17-Jy12	Jy24
		Jn26					Jy 7-Jy12	
Jn 2-Jn12	Au 9	My30-Jn 6			My 7-Jy 6	Jn30	My29-Jy12	Jy25-Jy26
	My25-Au 5	My30				Jn28-Jy 8	My30	Jy 8
Jn 2-Jn 5	Au 3-Au 9	My19-Jn27	My29-Au 8		My 7-Jy 6	Jy 1-Jy28	My17-Jy19	Jy 10-Jy25
Jn 5	Jn 4-Au 9	Jn 4-Jy18	Au 9		My 7-Au 4	Jn28-Jy28	My12-Jy19	Jy 8-Jy25
Jy13	Au 3-Au 9	Jn12-Au14	Au 4		Jn17-Au 4	Jn28-Se 3	My31-Au14	Jy 8-Jy26
	Jn 1-Au 9	Jn16-Au14	Jn11-Au 4		Jn30-Jy 6	Jn30-Se 5	Jn13	
	Au 5-Au 9							
	Jn 1				My16			
Jn12		My30-Jn27			Jn17-Jy 6	Jn30-Au 2	Jn12-Jy19	Jy10-Jy25
					Jn17-Jy15	Jn28-Jy 7	Jn12-Jy 5	
	Au 5-Au 9				Jy 3			
Jn18	Jn 4-Au 3	Jn12-Jy18	Au 4		Jn17-Jy 6	Jn28-Jy26		
	My25-Au 9					Jn29-Jn30		
Jy 2	Au 5-Au 9	Jn 9-Jn27	Jn11		Jn 9-Jy 6	Jy 1-Jy28	Jn14-Jy12	Jy10-Jy25
	Jn 4-Au 9					Au 2		
		Jy18-Au21			Jn30-Jy 3		Jy 7-Jy12	
					Jn30-Jy 3			

		Waterton Lakes National Park	Milk River Area	Cardston Area	Crownest Pass Area	Cypress Hills Provincial Park
Elevation		4200'	3200'	4400'	4200'	4100'
early summer	<i>Campanula rotundifolia</i> Bluebell	Au 9	Jn 6-Jy20	Jy26		Jy 1-Au 3
	<i>Epilobium angustifolium</i> Common Fireweed	Au 9		Jy26	Jy16	Jy 9-Au14
	<i>Agoseris glauca</i> False Dandelion			Jy26		Jn 8-Au14
	<i>Mentha arvensis</i> var. <i>villosa</i> Wild Mint	Au 9				Jn11-Au 3
	<i>Chrysopsis villosa</i> Golden Aster		Jn 6-Au 7	Jy26		Jn21-Au14
	<i>Grindelia squarrosa</i> Gumweed	Au 9	Jy 7-Au 7	Jy26		Au14
	<i>Parnassia palustris</i> Grass-of-Parnassus	Au 9		Jy26	Jy10	Jy24
	<i>Monarda fistulosa</i> var. <i>menthaefolia</i> Wild Bergamot	Au 9	Jy 7-Jy20	Jy26		Jy 9-Au14
mid-summer	<i>Liatris punctata</i> Blazing Star	Au 9	Jy20-Au 7			Jy31-Au14

National Park - Banff, Cascade Mountain, Ghost Lakes, Healy Pass, Paradise Valley, Sulphur Mountain, Sunset Pass, Sunshine Village, Stoney Squaw; (15) Red Deer - Blackfalds, Delburne, Dry Island Buffalo Jump Provincial Park, Lacombe, Morningside, Penhold, Pine Lake, Red Deer, Three Hills; (16) Rocky Mountain House - Bearberry, Bergen, Buck Lake, Burnt Timber Campground, Caroline, Clearwater Forest Reserve, Cremona, Crimson Lake Provincial Park, David Thomson Resort, Ferrier, James River, Mountain Aire Lodge, Nordegg, Rocky Mountain House, Water Valley, Westbrook, Winfield, Ya-Ha-Tinda Ranch, Yara Creek; (17) Wainwright-Vermilion - Caster, Vermilion, Wainwright; (18) Stettler - Bashaw, Big Valley, Botha, Cordel, Donald, Erskine, Forestburg, Mirror, Stettler; (19) Camrose - Edberg, Joseph Lake, Millet, Shonts, Pigeon Lake; (20) Jasper National Park - Columbia Icefields, Hinton, Jasper, Maligne Lake, Wilmore Wilderness Park; (21) Edmonton - Ardrossan, Beaumont, Bruderheim, Cooking Lake, Devon, Edmonton, Elk Island National Park, Genesee, Glenevis, Kavanagh, Ministik Lake, Morinville, St. Albert, Sherwood Park, Spruce Grove, Stony Plain, Tofield;

Lethbridge Area	Medicine Hat Area	Porcupine Hills Area	Turner Valley Area	Bow-Crow Forest Reserve Area	Calgary Area	Canmore Area	Drumheller Area
3100'	2200'	3500'	3900'	6000'	3500'	4200'	2300'
Jnl4-Jyl12	Jyl3-Jy22	Jn28-Oc 4	Jy 4-Se18	Jnl9-Oc12	Jn 2-Oc12	Jn20-Se14	Jn23-Au23
		Jn22-Se18	Jy 5-Au22	Jnl9-Se19	Jn 2-Se29	Jn27-Se12	Jy 6-Au23
Jn 5		Jn26-Jyl12	Jn27-Au22	Jnl9-Se26	Jn 2-Oc12	Jn 8-Se12	My29-Jyl19
Jy 1	Jyl3-Jy22	Aul4-Se13			Jyl16-Jy24	Jy 3-Au22	Jyl10-Au23
Jy 1-Jyl12	Jyl3-Se15	Jn 4-Se27	Au 8	Se19-Se23	Jyl11-Se29	Jyl10-Se14	Jn 1-Au23
My30-Jyl12	Jyl3-Jy22	Aul4-Se15			Jy23-Jy24	Se12	Jyl16-Au23
	Jyl3-Jy22	Aul4-Se 2		Jn29-Au 1	Jy24-Jy25	Jy 2-Au22	Jy 6-Au23
Jy 1-Jyl12		Jyl12-Au10	Au22	Jy22-Au 2	Jy 2-Se14	Jyl10-Au22	Jy 7-Au 1
	Jyl3-Se15	Aul4-Se22			Jnl11-Se11		Jyl19-Au23

(22) Whitecourt - Barrhead, Clyde, Fort Assiniboine, Fox Creek, Little Smoky, Whitecourt; (23) Athabasca - Athabaska, Fawcett; (24) Cold Lake - Ardmore, Elk Point, Franchene, Glendon, Goodridge, Laurier Lake, Loon Lake, Moose Lake Provincial Park, St. Paul; (25) Peace River - Bear Canyon, Beaver Lodge, Bezanson, Bluesky, Boundary Lake, Cherry Point, Chinook Valley, Debolt, Dixonville, Fairview, Grimshaw, Hines Creek, Manning, Moonshine Lake Park, North Star, Peace River, Valleyview, Whitelaw; (26) Fort McMurray - Fort Chipewyan, Fort McMurray, Gregoire Lake Provincial Park; (27) Fort Vermilion - Fortner Lake, Hay Lake, High Level, Meander River, Zama City.

Contributing observers in 1976 were P. Achuff, D. Allen, Elizabeth Allen, C.B. Bailey, Brenda M. Baker, J.A. Baker, R. Barton, M.W. Battrum, Margaret Bendickson, Margaret Berg, Myrtle A. Biggs, C.D. Bird, R. Brade, G. Bulmer, Betty J. Bulmer, Anna Cairns, W.T. Carlyle, Evangeline Case, J.W. Case, Elizabeth Clappison, Edith J. Clark, Pat Clayton, Joyce Cole, M.G. Capen, J. Corbin, Nancy Crotteau, Elsie Crückshank, Barbara Danielson, Phyllis Davis,

		Banff National Park	Red Deer Area	Rocky Mountain House Area	Wainwright- Vermilion Area	Stettler Area
Elevation		4500'	2800'	4000'	2000'	2700'
early summer	<i>Campanula rotundifolia</i> Bluebells	Jy11-Au17	Jn20-Se19	Jy 8-Oc17	Jy17-Au 4	Jn19-Au 6
	<i>Epilobium angustifolium</i> Common Fireweed	Jy 7-Au17	Jn11-Au15	My29-Oc11	Jn28-Au 5	My30-Jy28
	<i>Agoseris glauca</i> False Dandelion	Jy 3-Au17	Jn25-Jy29	Jy 6-Se19	Jn28-Au 5	Jy 2-Au 3
	<i>Mentha arvensis</i> var. <i>villosa</i> Wild Mint		Jn20-Jy29	Au11-Se25	Au 4-Au 5	Au 6
	<i>Chrysopsis villosa</i> Golden Aster	Jy29	Jy29-Au15	Jn13-Au28	Jn28-Au 5	My30-Jy17
	<i>Grindelia squarrosa</i> Gumweed		Jn20-Se19		Au 4	Jy17-Oc 3
	<i>Parnassia palustris</i> Grass-of-Parnassus	Jy25-Jy28	Jy18-Jy29	Jy 7-Au28	Jy17	
	<i>Monarda fistulosa</i> var. <i>menthaefolia</i> Wild Bergamot		Jy18-Au 7	Au19-Au31		Jy 6
	<i>Liatris punctata</i> Blazing Star		Jy29			Au 3
mid-summer						

Doris Deleff, Daphne Denton, S. Denton, D. Dew, Joan Dew, Marjorie Donaldson, Madelaine G. Dumais, D.M. Ealey, Jenny Feick, Joy Finlay, Allison Fisher, R.M. Fisher, Madeline Fleck, Josephine Forbes, R.B. Fraleigh, D.B. Frohlick, R. Godfrey, G.M. Greenlee, Elizabeth Hall, Beryl Hallworth, Aileen Harmon, Alice Harper, F. Harper, Helen M. Harris, Margaret Harris, Marilyn Hamlin, Eleanor Hebron, Loren Hettinger, L.V. Hills, P. Hills, Hazel Hudson, J. Humphries, R. Hutchinson, B.W. Ingles, D. Jaques, J.D. Johnson, Edith Kathol, W.G. Kerr, J. Kinnaird, A. Klar, Vicky Kulyk, M.R. Lein, Brenda Leriger, Glennis Lewis, Naomi Lewis, Mary S. Lore, Mary S. MacAllister, K. MacLennan, Lilian MacLennan, Virginia R. Maitland, B. Matz, Margaret Matz, Diane McIvor, M. McIvor, Allison McLean, Jacqueline Moore, J. Moore, D. Moore, Marion Morrocks, D. Moyles, Grace Norgard, Marg Oliver, G. Olmstead, D.M. Olveen, Maxine O'Riordan, Cathy Osborne, Lesley Partridge, F. Piggot, H. Pinel, Robina J. Polet, J.B. Posey, Mary Helen Posey, J.M. Powell, Margaret Prior, R. Quaife, Marg Reine, Esta Richardson, Barbara Ries, Louise Routledge, R. Routledge, Jessie Sakatch, Ellen Sangster, F. Schutz, S. Shigematsu, Marjory Smith, Mary M. Smith,

Camrose Area	Jasper National Park	Edmonton Area	Whitecourt Area	Athabaska Area	Cold Lake Area	Peace River Area	Fort McMurray Area	Fort Vermilion Area
2400'	3500'	2200'	2200'	1900'	1800'	2200'	1000'	900'
	Au 9		My29-Au 9	Jy23	Jn30-Au25	Jn28-Se 5	My23-Jy12	Jy 9
Jy 2	Au 9	Jn20-Au14	Au 4-Au 9		Jn30-Au 4	Jn30-Au 2	Jn16-Au14	Jy 9-Jy26
	Au 5-Au 9							
		Jy18-Au14			Au 4		Jn21	Jy19
		Jn12						
	Au 9				Jy 3-Jy15	Jy 1	Jn21-Jy19	Jy 9-Jy25
Jy 6								

R.M. Smith, G. Stuart, Jean Tabor, Marilyn Taylor, F. Terentiuk, Carin Thomas, T. Toth, Chris Townsend, R. Townsend, P. VandenBrink, Marg Walker, Marie Anne White, Kathy Wiebe, C.E. Yauch.

The following table presents the average and individual first flowering dates from 1973-1976 for 10 species in the six areas from which most reports were made. The table shows that 1976 was phenologically ahead of average by 1-2 weeks from the commencement of flowering to well into June. In contrast 1973 was about a week early, 1974 was slightly ahead of average and 1975 was over two weeks late.

Once again, it should be stressed that the dates given are simply those that were reported. In many areas observations were made after first flowering occurred or were not made at all because of the scarcity of certain species or the lack of observers at the appropriate time. Generally, the first flowering dates are more reliable than those at the end of the flowering period and more observations were made in the spring than in the summer.

It is vital that this project continue. Many areas are under-reported. More observations need to be made and more observers

		Lethbridge Area	Calgary Area	Canmore Area	Red Deer Area	Stettler Area	Edmonton Area
Prairie Crocus	73	Mr 24	Mr 16	Ap 10	Ap 9		Ap 15
	74	Ap 17	Ap 6	Ap 15	Ap 10	Ap 28	Ap 4
	75	My 15	My 1	My 18	My 20	Ap 26	Ap 27
	76	Ap 5	Mr 31	Ap 4	Ap 3	Ap 4	Mr 30
	Avg	Ap 15	Ap 5	Ap 19	Ap 18	Ap 19	Ap 11
Aspen	73		Mr 24	Ap 10	Ap 22		Ap 3
	74		Ap 13	Ap 15	Ap 24	Ap 26	Ap 21
	75		My 11	My 18	My 20		My 3
	76		Ap 2	Ap 11	Ap 9	Ap 9	Ap 7
	Avg		Ap 12	Ap 20	Ap 26	Ap 17	Ap 16
Golden Bean	73	Ap 7	My 1	My 27	My 16		My 13
	74	Ap 24	Ap 20	Ap 23	My 22	My 7	
	75	My 15	My 21	My 19	My 25	My 19	
	76	Ap 14	Ap 12	My 9	My 1	My 2	My 9
	Avg	Ap 22	Ap 28	My 4	My 18	My 9	My 11
Saskatoon	73	My 10	My 7	My 27	My 18		My 16
	74	My 10	My 11	Jn 8	My 25	My 25	My 20
	75	My 21	My 24	My 28	Jn 6	My 31	Jn 1
	76	My 2	My 3	My 9	My 9	My 5	My 9
	Avg	My 11	My 11	My 26	My 27	My 20	My 19
Choke Cherry	73	My 20	My 27	Jn 5	My 27		My 16
	74	My 25	My 15	Jn 16	Jn 2	Jn 14	My 29
	75	Jn 10	Jy 4	Jn 10	Jn 15	My 26	Jn 8
	76	My 23	My 3	My 30	My 15	My 15	My 14
	Avg	My 27	My 27	Jn 7	My 30	My 28	My 24
Yellow Pea Vine	73		Jn 3				My 29
	74		Jn 3	Jn 16	Jn 18		Jn 10
	75	Jn 17	Jn 8	Jn 8	Jn 6	Jn 19	Jn 4
	76	My 23	My 29	My 16	My 24	My 15	My 17
	Avg	Jn 4	Jn 3	Jn 3	Jn 6	Jn 1	My 30
Northern Bedstraw	73		Jn 7				Jn 7
	74	Jy 4	Jn 17	Jn 14	Jn 19	Jn 22	Jn 15
	75	Jn 17	Jn 20	Jn 14	Jn 18	Jn 8	Jy 1
	76		My 28	Jn 18	Jn 11	My 30	Jn 4
	Avg	Jn 25	My 16	Jn 12	Jn 16	Jn 10	Jn 14
Common Yarrow	73	My 30	Jn 4				Jn 17
	74	Jn 7	My 22	Jn 21	Jn 26	Jn 22	Jn 23
	75	Jn 17	Jn 22	Jn 24	Jn 25	Jn 19	Jy 3
	76	My 12	Jn 2	Jn 18	Jn 10	My 30	Jn 12
	Avg	Jn 1	Jn 5	Jn 21	Jn 20	Jn 13	Jn 24
Western Wood Lily	73		Jn 23	Jn 25	Jn 28		Jn 22
	74		Jn 14	Jn 16	Jy 2	Jn 28	Jy 3
	75		Jy 10	Jy 1	Jn 25	Jn 28	Jy 3
	76		Jn 2	Jn 8	Jn 10	Jn 24	
	Avg		Jn 20	Jn 20	Jn 26	Jn 27	Jn 28
Brown-eyed Susan	73	Jn 8	Jn 20	Jn 15	Jy 10		Jy 6
	74		Jn 18	Jn 24	Jn 29	Jy 4	Jy 5
	75	Jy 7	Jn 29	Jn 24	Jn 25	Jy 5	Jy 20
	76	My 30	Jn 2	Jn 18	Jn 20	Jn 16	
	Avg	Jn 15	Jn 17	Jn 20	Jn 28	Jn 28	Jy 10

1973-1976 and average first flowering dates for 10 species in a selected group of Alberta areas.

are needed. Observation forms will be sent to you prior to the flowering season if your name is on the compiler's mailing list. Please contact the writer at the Biology Department, University of Calgary, if you fail to receive forms or if you would like your name added to the mailing list.

This project was financed by the Federation of Alberta Naturalists and by the writer's National Research Council of Canada operating grant. Barbara Danielson helped with sorting, typing and filing of the data.

CORRECTION TO WRITING-ON-STONE ARTICLE

by Marie Barton
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One correction needs to be made to the article, "Writing-On-Stone Park and area", which appeared in the Alberta Naturalist 6: 284-287, 1976.

The Sweetgrass Hills rise 2,500 feet above the surrounding plain, rather than 150 feet, as stated on p. 284.

NOTES ON LOONS

by Fred Schutz
R.R. #2
Bluffton, Alberta
TOC OMO

EDITOR'S NOTE:

The following article was submitted by Maxine O'Riordan by permission of Mr. Schutz. It was previously printed in the local newspaper, Rimley Record. Mr. Schutz is President of the Red Deer River Naturalists. - M.K.M.

The loons treated us to some top-notch entertainment on a recent summer afternoon. They gave us a song and dance routine that would be hard to beat.

All was quiet when we put the canoe into the water at the south end of the wilderness lake, but as we approached the opposite end some twenty minutes later, we were met with what I could only interpret as loud protestations. The loon has four basic calls; the laugh, the yodel, the mournful wolf-like wail, and the quieter conversational notes. It was the first of these, the laughing call, that our feathered friend was using, and as the canoe circled him he kept it up, seeming quite excited and not doing much diving or evading. He was joined at times by a companion down along the west side of the lake. This bird, as we approached, dived, and stayed under more than out. There was no sign of chicks anywhere, as there should have been this time of year.

Any way you look at it, we were intruders into the loons' age-old domain; and there is no doubt in my mind that we were being told about it. However, we wish them nothing but the best, and so our feelings of guilt were small, and we enjoyed those birds to the full.

Later, toward evening, two loons came together, swimming, right close to the shore where we had stopped for supper, and we were entertained some more. Though it was long past time for it, they put on a typical courtship display, walking water in an upright position with much flapping of their great wings. They swam and dived and cavorted and churned the water white, and we had grandstand tickets. Perhaps, at this time, it was more of a territorial defense measure than a courtship performance.

Loons dive either by simply lowering themselves gently into the water, or purposefully, like a dolphin, up, out, forward and down, as though to give them momentum for a deep dive. Our loons were using both methods. Sometimes they sat on top of the water, sometimes they rode deep, as loons are able to do.

Then a third loon came to join them, and he made the most beautiful landing you could wish to see, skimming the smooth water for 100 feet or more before he settled in, right on target, and

leaving a long wake that shimmered in the evening light. They all laughed and yodelled, and one of our party yodelled right back at them, getting them noticeably excited. Again we were sure, without being able to prove it, that they were telling us this was their lake; we were trespassing and they were ordering us to leave - pronto. Being people, we paid them no heed. We would leave when we were good and ready.

Then one of them, perhaps the caller who had just come in, decided to take off, and this was an entirely different operation. It took the bird several hundred feet of frantic effort with both wings and feet to get into the air, but once airborne he seemed to fly with ease and grace, considering he has one of the smallest wing areas of any bird compared to body weight. An adult loon has a weight of 8 or 9 pounds and a five foot wingspan. He is efficient in the air and can out swim a fish, but he can hardly walk on land, as his feet are so far back on his body. He cannot get into the air from land, so nests are very close to shore.

Here's to the loon! Long may his laughter and his wails echo and re-echo from a wilderness shore!

CASSIN'S FINCH AT JASPER

by W. Ray Salt
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On 16 May 1975, while staying at Pyramid Lake cabins near Jasper, I became aware of a familiar song that, in Edmonton, I would have attributed to a Purple Finch, Carpodacus purpureus. I therefore climbed the ridge behind the cabins to get a look at the songster. It proved to be a male Cassin's Finch, Carpodacus cassinii, in gray plumage, courting a bird of similar colour, presumably a female. Until 18 May when I left Jasper, I was able to find and observe these birds daily in this same area where they appeared to

be on territory. They spent much of their time in the scattered pines and firs near the crest of the ridge, the male singing from the tip of a tree or from near the end of a high branch. He raised his crest and opened his wings before the female, singing rapturously at times and displaying in exactly the same fashion as both red and gray males of the Purple Finch do at Pigeon Lake. I could detect no difference between the song of Cassin's Finch and that of the more familiar Purple Finch but when the birds were in flight the notes uttered were kee-up or kirrup, a two-syllabled phrase quite unlike the staccato tick or klip of the Purple Finch. Both Cassin's Finches were gray rather than olive-gray, had well defined streaks on the underparts, and lacked the strong superciliary stripe and moustache markings of gray Purple Finches.

On 2 October 1976 after climbing this same ridge behind Pyramid Lake cabins I was again unexpectedly treated to a good view of several Cassin's Finches. I was checking the species of small flocks of crossbills which were moving over the ridge (as good an excuse as any for sitting and taking a rest) when I realized that a group of about a dozen birds that settled in a pine top some 30 meters away were not feeding quietly the way crossbills should, and were in fact not crossbills at all but Cassin's Finches. There were at least two rosy males in the group. One of these, together with two gray birds, flew into the top of a spruce only about 10 m. from me and only slightly above eye-level. The coloured male had a bright red cap clearly demarcated from a streaked brownish nape and back. The underparts were paler red with a few dusky streaks on the sides. The farther red male was similar but appeared to have paler pink underparts. The gray birds were similar to those described previously. Although they remained within view for ten or fifteen minutes I was unable to get a good look at the under tail coverts of any of these birds. Their notes, while feeding, were a mixture of chee-ut, kee-u-wee, and occasionally a softer sweet-a. When they left their notes in flight were interpreted as ku-wut or chweet-u; there were no staccato single notes.

I believe that Cassin's Finch is only uncommonly reported from the eastern slopes of the Alberta Rockies and that it has not

previously been recorded as far north as Jasper.

THE EDITOR'S YEAR: LONDON TO MADEIRA CANYON;

KANANASKIS TO WASHINGTON

by Martin K. McNicholl

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1976 was undoubtedly the most unusual and instructive year in the life of the Editor to date. Since a considerable portion of that year was spent out of Alberta, I do not propose here to describe the natural history of the areas of my travels, but I do wish to summarize my thoughts and impressions gained as they relate to Alberta, and especially to FAN. I rarely write Editorials, but this is one.

My year began with the third of three weeks spent in England. Approximately two weeks were spent at Upleadon, near Gloucester. The remainder of the time was spent in London and in several spots (Croydon, Brighton, Chichester, etc.) south of London. In late March, after my candidacy exam, I travelled with John H. Alway west to Vancouver, B.C., then south along the coast to Pacific Grove, California for the Cooper Ornithological Society meeting. After the meeting, we drove south as far as Los Angeles, then west to Arizona, where we visited Madeira Canyon, the Sonoran Desert Museum, and Saguaro National Monument. We then drove north through Utah, Idaho, and Montana back to Edmonton. In June and July, and later in October-November, I worked for Peregrine Research and Documentation, Ltd. doing vertebrate surveys in the proposed Kananaskis Provincial Park in the mountains of southern Alberta. Then from mid-July to early October, I worked for Lombard North Group Ltd. in Calgary. This involved attending a conference in Fairbanks, Alaska, and participating in hearings on pipeline routes in Washington, D.C.

Needless to say, this provided a year of contrast. As my trip to England was the first to Europe, and parts of the March-April trip covered new ground, I managed to add many species of birds and mammals to my life's experience, and of course gained considerably from these observations (and also from those of familiar species in new places) from an academic viewpoint. The strongest message, and one strengthened by extensive reading over the year, however, was a conservation message. Whenever I travelled in areas we tend to associate with wilderness (parks, monuments, etc.) man's activities were still all too apparent - either directly through noise, planes overhead, or physical presence, or indirectly through poorly placed structures or garbage. All this tends to be depressing, but a counter trend was also noted. Signs that wildlife and civilized man can co-exist with proper planning were also evident. In London, once the largest city in the world, a Kestrel was seen hovering and waterfowl fed from hands within a few minutes walk of the most crowded street I have ever seen anywhere. Similar observations of wildlife close to heavy congestion were seen in Pacific Grove, Tucson, Fairbanks, Calgary, Edmonton, Washington, etc. However, in most cities there were major stretches of wildlife-less areas. Moreover, vast stretches of rural areas are dominated by monocultures, which in turn reduce natural diversity. Everywhere, even in the High Arctic, technology intrudes at the expense of wildlife. As naturalists, members of FAN and similar organizations, tend to spend considerable effort attempting to preserve or conserve last remnants of habitats or species. This work cannot be belittled, and must go on if we are to save the little left of sensitive species and vulnerable habitats. But, much will be lost and has been lost. Such losses need not be absolute. We can maintain many elements of a natural environment within our cluttered artificial cities and monocultural farmlands if new developments are properly planned. It is my opinion that as much time needs to be devoted to this goal, both in Alberta and elsewhere, as is currently devoted to protecting the last remnants of vanishing natural heritage. We must continue our efforts for the latter, but we cannot afford to ignore those areas that will change if we are to retain a tolerable place in which to live. Southern England is so crowded that one never feels he is quite yet in the countryside. Yet, one rarely feels he is in a real metropolis, as hedges, gardens, and

trees abound, filled with birds - and few people seem to be at a loss to name the common species of their area. Parts of California and the cities of British Columbia are similar. Surely the settled portions of Alberta could retain a taste of nature in a similar fashion. Naturalists must be at the forefront of efforts to "naturalize" Alberta's cities and countryside.

As a larger and larger proportion of the population move into urban areas, this becomes more and more important not only for the sake of nature within the cities, but also as a means of educating the voting public as to the values of a natural heritage, and thus obtaining their support for parks and wild area preservation.

HIGHLIGHTS OF FALL BIRD MIGRATION FOR SOUTHERN ALBERTA - 1976

by Rudi Butot
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The fall in southern Alberta was again mild, just as it had been in 1975, and many of the fall days were more pleasant, than many of the summer days had been. The larger sloughs and lakes were ice free until about the middle of November, when many started to freeze over. The dry period of the last few years continued for our area, and thus no small depressions contained any water. This resulted of course in the concentration of large numbers of waterfowl, and shorebirds, on the larger bodies of water during migration.

For the second year in a row, a Yellow-billed Loon put in an appearance. The bird was found in a ditch near Springbank, on November 22; it probably had landed on the highway, mistaking it for a body of water. As these large loons require a long stretch of water to become airborne this one would have died there, if it had not been found. It was brought to the Inglewood Bird Sanctuary, in Calgary, and released on the lagoon there. It has been

there ever since, living off the trout it catches. Parts of the lagoon remain open during most winters, and it is to be hoped that the bird survives the winter. It is a nice example of its species, with the characteristics such as a large, deep and flat, hornlike whitish bill (winter plumage), and upturned lower mandible well displayed, as were the extensive whitish areas on the face, extending upwards above the eyes. The white shafts of the primaries were also noted when the bird was originally handled. Its close relative, the Common Loon, was last reported from Calgary on November 6th.

A Red-necked Grebe was reported from Calgary on October 21st, while the last reported Horned and Eared Grebes were seen at Travers Reservoir on November 14th, and at Namaka Lake on November 7th, respectively. Pied-billed Grebes after not having been reported from our area all summer, although some had been reported from further north near Zama City, put in an appearance in the fall. The last one seen, was reported from Frank Lake on November 6th, while the largest group sighting had come from Bruce Lake, near Keoma, where five were seen on September 11th. Western Grebes were seen in the hundreds on Frank Lake during the third week of September, while the last five were reported as follows: two on McGregor Lake near Armada, and three on Travers Reservoir, both on November 14th. The last Great Blue Heron was reported from Frank Lake on September 24th, while seven White Pelicans near Milo on August 2nd were the last ones of that species reported. The last Double-crested Cormorants, eleven, were seen near Irricana on August 8th.

Only one Trumpeter Swan was reported this fall, from Frank Lake on September 21st. Whistling Swan numbers were lower than those reported last fall, as only 1,437 were reported. However, of these over 30% were immatures, a fairly healthy sign. The first sighting was from Conrich on October 16th, while the last one was seen at Frank Lake on November 12th. Canada Geese were well represented, some of the larger numbers reported were: 300 near Oyen on September 19th, 2,200 near Endiang on the same day, 1,000 on Little Bow Lake Reservoir on October 31st, and 850 near Armada on November 14th; for that matter, 39 were still around for the Xmas Bird Count in Calgary on December 19th. White-fronted Geese were

reported as follows: 65 near Hanna on September 17th, 74 near Endiang on September 19th, and one, in a flock of Canadas, near Armada on November 14th. Snow Geese in large numbers were reported from the Milo to Travers Reservoir area, for the last two weeks of October and the first two of November, numbers ranged from 2,000 to 10,000. A total of six Ross' Geese were reported; one immature trying to join a flock of sunning Herring Gulls near Milo on September 24th, and five adults near Armada on November 14th.

Redheads, ducks that is, were last reported from Namaka, two on November 7th, while the largest flock, fifteen, had been reported from near Morley on October 30th. A pair of Ring-necked Ducks were seen on Travers Reservoir on November 14th, while over 1,000 Ruddy Ducks were on Frank Lake during the third week of September. Common Goldeneyes moved through during the first two weeks of November, and the largest flock, 400, was seen on November 14th, near Armada. An unusual number of Oldsquaws were seen for our area, four in all, on November 14th, and all were females; two on the Bow River near Carseland, and two singles on McGregor Lake. Another first for Alberta were two Black Scoters seen on McGregor Lake near Milo, on November 12th. Both were probably immatures, and possibly males. Photographs taken at that time were submitted to AORC, and the sighting has been accepted as the first Substantiated Record for Alberta. Hooded Mergansers were seen in Calgary, one pair on October 24th, and a single bird on November 6th.

Rough-legged Hawks started moving through our corridor during the last week of October, with the largest numbers reported on November 7th, when fifteen were reported from between Strathmore and Calgary. The largest number of Swainson's Hawks were reported from the Priddis - Black Diamond area, where 28 were seen on September 11th. On that same day, and in the same area, twenty-six Red-tailed Hawks were also reported. The old Red-tail was still being reported by the end of October, but no Swainson's sightings were reported after September 11th. One Broad-winged Hawk was seen near Travers Reservoir on October 31st, while the last reported Marsh Hawk was seen on November 14th near Armada. Gos-hawks were reported, in singles mainly, during the last week of October to the end of November from Cochrane, Water Valley,

Mossleigh, Caldbeck and Carseland. Snowy Owls were first seen on November 14th, when one was sighted near Armada, and nine in the Strathmore to Balzac area. One Hawk Owl was seen near Turner Valley on December 11th, while a Long-eared Owl was reported from Milo on October 24th. A Great Grey Owl was reported from Banff on September 1st, and I was told of some people capturing one near Banff on December 17th, and taking it home to Calgary. It is unfortunate that this type of activity is still taking place in Alberta, and it should certainly be discouraged to the utmost. To take in an injured bird, or one obviously in distress, and handing it over to the Zoo is one thing, but to capture healthy birds without authorization is most unfortunate; and in the case of hawks and owls illegal as well.

Sandhill Cranes were seen in a few large concentrations; 400 near Endiang on September 19th, and thousands migrating south near Peace River during the last week of September. Fifteen hundred American Coots were reported from the Calgary area on September 12th, while the last one was seen near Armada on November 14th. The first south bound Black-bellied Plover was seen near Dowling Lake on September 17th; the largest flock, 159, was reported from Milo on September 24th and 26th, while the last one was sighted near Irricana on November 1st. The last two Common Snipe were seen on October 27th, again near Milo. The first post breeding, migrating Greater, and Lesser Yellowlegs were reported from the Calgary area on June 19th, both near Irricana. Semi-palmated Plover were reported from mid-July until August 7th; one near Irricana on June 19th, three on July 17th, and thirteen on August 1st, while the last ones were reported from Bashaw and Delacour. The last Pectoral Sandpiper was reported from Namaka on November 7th, the last Baird's near Milo on September 24th, and the last Least Sandpiper near Namaka on October 3rd. The last five Sanderlings were reported from Little Bow Lake reservoir on October 31st, and one Dunlin at Frank Lake on October 18th. Last year a Curlew Sandpiper was photographed at Frank Lake in the fall. One Western Sandpiper was photographed near Delacour on July 18th, in company of some Least Sandpipers. Two Hudsonian Godwits were seen near Milo on September 24th, in company of three Marbled Godwits; these were the last reports for both for 1976. Five Stilt Sandpipers were also seen there on that day. Wilson's Phalarope

numbers were very low this year, no doubt because of the dry conditions, and the last two were reported from Milo on October 24th. The last Northern Phalarope was sighted at Frank Lake on October 18th.

A Parasitic Jaeger was seen at Frank Lake from September 19th to 24th, while an immature Black-legged Kittiwake was found in Calgary on November 13th. The latter is a first for Alberta. A small flock of Herring Gulls was seen near Milo from September 24th, until the last one was reported on November 14th, and the last California Gull was seen there on October 31st. A single Ring-billed Gull was still hanging around in Calgary on December 11th. Forty Bonaparte's Gulls were at Namaka on November 7th, where the last Franklin's Gull had also been seen, but on September 24th. The last Common Tern report was from Strathmore on August 21st.

Hummingbirds brought some surprises to Calgary. An immature Anna's, a male, was seen and photographed there. It was a first for Alberta. The bird had first been seen there this fall on September 28th, and stayed near the feeders until last seen on October 31st. A female Rufous Hummingbird had kept it company on October 7th to 9th. A Common Nighthawk was reported from Calgary on September 16th.

Neither Eastern nor Western Kingbirds were reported after the middle of August, but a Traill's Flycatcher was seen in Calgary on September 6th. Based on reports received, the Swallows were also essentially gone by the end of August. The last ones were Barn Swallows, twelve of which lingered near Brant until September 21st. A single House Wren was the last one seen in Calgary on September 11th, while a Winter Wren had been reported from Lake Louise on September 4th, and a Long-billed Marsh Wren from Namaka on September 26th. The last Grey Catbird report came from Calgary on August 12th, while a Brown Thrasher was seen near Engiang on September 19th. American Robins were reported migrating south near Erskine, in flocks of hundreds, for a total of 10,000, on September 19th, while on September 21st only a few remained. In Calgary a single was reported on December 18th, while a Varied Thrush was seen there on October 6th. The last reported Mountain Bluebirds were fifty, seen near Wainwright on September 10th, and

two near Morley on September 11th. The last Swainson's Thrush was seen in Calgary on October 18th, and a Water Pipit also in Calgary on October 9th.

The last of the Vireos was a Red-eyed Vireo, on August 28th in Calgary. The last of the warblers this year was a Wilson's Warbler, that was seen checking some shrubs for insects, on the rather late date of October 25th, in Calgary. Some of the other sightings were: Tennessee; Calgary, on September 4th; Orange-crowned, Calgary, on October 3rd; Yellow, Calgary on August 10th; Black and White, Little Smoky, on August 8th; Magnolia, Calgary, on August 12th; Oporornis, Calgary, on September 12th; Yellow-rumped, Calgary, on October 5th. A late Western Meadowlark was seen and heard singing, on a fence post near Namaka on November 1st, while the last reported Northern Oriole sighting came from Calgary on August 14th. Yellow-headed, and Red-winged Blackbirds were seen near Blackie in the fourth week of October, and a Western Tanager was still in Calgary on September 16th. The first wintering Evening Grosbeak was seen in Calgary on October 19th, while a Pine Grosbeak was seen on November 6th, and small flocks of Common Redpolls at the end of October near Cochrane and Little Bow Lake reservoir.

The last Rufous-sided Towhees, two, were reported from near Wainwright on September 10th. Some of the last sparrows to be reported were: Savannah, October 24th near Blackie; Vesper, September 26th near Irricana; White-crowned, October 30th near Morley; White-throated, December 10th in Calgary; and a Song Sparrow on December 5th from Strathmore. The first Lapland Longspurs of the fall were reported from above the tree line on Plateau Mountain, near the Highwood junction, on September 20th, while the first large numbers of Snow Buntings were observed in the second week of November, east of McGregor Lake, between Milo and Armada.

More detailed tabulations for the fall period can be found in the fall and early winter issues of The Calgary Field Naturalist.

REPORT OF THE 4TH ANNUAL MEETING OF THE
ALBERTA ORNITHOLOGICAL RECORDS COMMITTEE: 1976

This report summarizes the submissions received by the Alberta Ornithological Records Committee (AORC) during the period 6th December 1975 to 4th December 1976. During this twelve month period (from one annual meeting to the next) the Committee received six submissions in its capacity as a repository for records and 27 submissions for adjudication. The records for adjudication came from 22 observers and represent 20 avian species. These figures are an increase of approximately 250% over the same figures for 1975. It is indeed gratifying to see such support for organized ornithology among Alberta birdwatchers.

The composition of the five member AORC continues unchanged for 1977. Members are: Robert Turner, Ray Salt, Ian Halladay, Garry McKay and Chip Weseloh. Committee members are appointed; they serve a minimum of one and a maximum of two, three year terms of office; replacement is staggered.

At the recent meeting the Committee voted to expand its standards of documentation for submissions in Category I - Substantiated Record. Accordingly, "... an electronic recording of the songs, calls, or other sounds which are sufficiently distinctive to identify the species," is now acceptable as material evidence of a species' occurrence. Such evidence had previously only been confirmation of a submission in Category II - Documented Observation. Tape recorded field notes, however, are still confirmation of a submission in Category II.

Below are listed the repository and adjudication submissions received by the AORC during 1976.

Repository Submissions

A checklist of birds observed at Sir Winston Churchill Provincial Park, 17 May - 7 September 1976; submitted by K. Sars.

A list of birds observed in the Cold Lake area with emphasis on Lunds' Point and vicinity; submitted by W. Nordstrom.

Results of the Breeding Bird Survey at Kehiwin Lake, 1976; submitted by A. Wisely.

Birds observed in the area around Cold Lake (1968-1970); submitted by H. Blokpoel and F.L. Waite.

Athabasca Bird Check-List (prior to 1955, prepared by David Stirling, 1962); submitted by A.J. Erskine.

Birds seen in the Slave Lake Area, 17 March - 18 May 1976; submitted by S. Bondrup -- Nielsen.

Adjudication Submissions

SUBSTANTIATED RECORDS

"A submission accompanied by full data (e.g. place, date, observer, weather, etc.) and one or more of the following: a specimen, a fragment from which the species can be identified beyond doubt, a photograph clearly showing identifying features of the species, an electronic recording of the songs, calls or other sounds which are sufficiently distinctive to identify the species."

YELLOW-BILLED LOON (Gavia adamsii) A winter plumaged individual was reported from 2-5 March 1975 at Calgary, by Peter Sherrington.

SNOWY EGRET (Egretta thula) An adult was photographed on 30 June 1976 at Pakowki Lake by Cliff Wallis and Wayne Smith.

BLACK SCOTER (Melanitta nigra) Two female or immature birds were photographed on 12 November 1976 at McGregor Lake by Rudi Butot. This is the first substantiated record of this species for Alberta; previously it had been on the hypothetical list.

SURFBIRD (Aphriza virgata) A single individual was photographed on 21 September 1975 at Beaverhill Lake by Richard Klauke. This is the first provincial record for this species.

SANDERLING (Calidris alba) Three individuals were photographed on 10 December 1975 at Banff National Park by Geoffrey Holroyd. Sanderling had not previously been reported from Banff National Park.

CURLEW SANDPIPER (Calidris ferrugines) One adult was photographed on 9 October 1975 at Frank Lake by Rudi Butot. This species had been only hypothetical in Alberta until the present record.

RUFF (Philomachus pugnax) One adult male was reported on 8 and 9 May 1976 at St. Albert by Betty Bulmer (photographed by Terry Thormin). This is only the second record of the Ruff for Alberta. (See Jones and Myres 1968 and Bulmer and Bulmer 1976).

THAYER'S GULL (Larus thayeri) Three reports: juvenile and sub-adult specimens from Edmonton on 27 October 1975 and 21 April 1976, respectively, by Chip Weseloh; three adults were photographed at Jasper on 6 September 1976 by Chip and Linda Weseloh.

BLACK-LEGGED KITTIWAKE (Rissa tridactyla) An injured individual of this species was found in front of their northwest Calgary residence by Mr. & Mrs. Shanly McMurray (submitted by Harold Pinel) on 13 November 1976. This species was previously unknown from Alberta.

ANNA'S HUMMINGBIRD (Calypte anna) One immature was seen in southwest Calgary on 6 October 1976 by Harold Pinel and John Riddell (photographed by Rudi Butot). This is the first Alberta record for this species.

GREAT CRESTED FLYCATCHER (Myiarchus crinitus) Several calls of an individual of this species were recorded at Moose Lake on 11 July 1974 by Cliff Wallis and Lynn Bradley. This is the first substantiated record of this species in Alberta after numerous

recent sight records (Greenlee 1973, 1972 and see below).

SHORT-BILLED MARSH WREN (Cistothorus platensis) The calls of a singing male were recorded at Cold Lake during the evening of 5 June 1976 by Cliff Wallis and Wayne Smith.

BLACKBURNIAN WARBLER (Dendroica fusca) Three specimens, two males and a female, from Touchwood Lake on 6 July 1976 were reported by Jasper Keizer and Rod Burns.

CHESTNUT-SIDED WARBLER (Dendroica pensylvanica) Two reports: several sightings (and photographs) from Cold Lake - Ethel Lake Area between 5-11 June 1976 by Cliff Wallis and Wayne Smith; a male from Touchwood Lake on 7 July 1976 by Jasper Kaiser and Rod Burns.

DOCUMENTED OBSERVATION

"A submission which includes a written description of the bird made at the time of observation which leaves no doubt as to the identity of the bird. The description would be in the form of the original pages of the observer's field notebook or photostat copy thereof. Supporting evidence in the form of sketches, tape recording etc. may also be submitted."

GREAT (COMMON) EGRET (Casmerodius albus) One reported from Beaverhill Lake on 23 May 1976 by Dick Dekker.

SNOWY PLOVER (Charadrius alexandrinus) A single individual was seen at Beaverhill Lake on 31 May 1975 by Dick Dekker and Ron Slagter. This is the first sight record for this species in Alberta.

LONG-TAILED JAEGER (Stercorarius longicaudus) One seen at the Jasper Landfill Site, Jasper National Park, on 28 August 1976 by Chip and Linda Weseloh.

GREAT CRESTED FLYCATCHER (Myiarchus crinitus) Four reports: one at Upper Mann Lake on 6 June by Patricia Greenlee and Kay Ball; at least two different individuals were seen regularly at Kingman between 9 June - 22 July, 1976 by Ken Trann (1976); one adult was reported from Moose Lake on 19 June by Chip and Linda Weseloh and four individuals were seen near Delburne on 11 August 1976 by Graeme Greenlee.

BLACK-THROATED BLUE WARBLER (Dendroica caerulescens) A female was seen in Edmonton on 13 and 14 September 1976 by Linda Weseloh.

DOCUMENTED NESTING RECORD

"A written description made at the location of the nest, its site, its contents and the attendant birds, which leaves no doubt as to its identity. Supporting evidence in the form of sketches, etc., may also be submitted."

PURPLE MARTIN (Progne subis) A pair nested in the backyard bird-house of Mr. & Mrs. Bob Hamilton in S.E. Calgary during the summer of 1976 (submitted by Garry McKay). This is the first documented successful nesting record for this species in Calgary (McKay 1970, Bird and Bird 1971).

UNSUBSTANTIATED RECORD

"A submission which does not fully meet any of the above standards."

RED PHALAROPE (Phalaropus fulicarius) A winter plumaged bird was reported from St. Albert on 11 November 1975.

LITERATURE CITED

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- Bulmer, Betty and Gerald Bulmer, 1976. Ruff sighting in Edmonton Area. Edmonton Naturalist 4: 131
- Greenlee, G.M., 1972. Great Crested Flycatcher again observed in Alberta. Blue Jay 30: 86-87
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- Jones, B.J. and M.T. Myres, 1968. First record of Ruff for Alberta. Blue Jay 26: 17-21
- McKay, W. Garry, 1970. Purple Martins in the Calgary Area. Calgary Field Naturalist 2: 49-50
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Submitted by

D.V. (Chip) Weseloh
Secretary, AORC

OVERHEARD (59)

Pussycat, Pussycat, Where Are You Going?

"Last February, riders on the Eagle Chair on Lake Louise clicked their cameras. They were shooting more than the view. Below, a somewhat surprised bobcat or lynx?-Ed. pranced across the Wiwaxy run glancing this way and that attentively, trying to avoid the absorbed skiers who zipped by probably thinking he was a dog. He was a pedestrian caught on a traffic island, an interloper in his own home."

Elaine Smith and Marilyn Reynolds
Alberta's Western Living 1(3):30, 1976

ADDITIONAL PLANTS IN FLOWER - MAY 30, 1976

by Julie Hrapko, Provincial Museum, Edmonton

(A-Abundant, C-Common, F-Few, O-Occasional, + Present)

FAMILY	SCIENTIFIC NAME	COMMON NAME	Calgary	Loona	Ministik Lake	Mirror	Porcupine Hills
CYPERACEAE (Sedge Family)							
	Carex filifolia	Thread-leaved Sedge	F				
LILIACEAE (Lily Family)							
	Allium textile	Prairie Onion					O
	Disporum trachycarpum	Fairy-bells		+			C
	Fritillaria pudica	Yellow-bell					O
	Maianthemum canadense	Wild Lily-of-the-valley			C		
	Smilacina racemosa	False Solomon's-seal					F
	S. stellata	Star-flowered Solomon's-seal	A	+	F	F	A
IRIDACEAE (Iris Family)							
	Sisyrinchium montanum	Blue-eyed Grass					O
ORCHIDACEAE (Orchid Family)							
	Calypso bulbosa	Calypso Orchid					F
	Corallorhiza trifida	Pale Coral-root Orchid		+			
SALICACEAE (Willow Family)							
	Populus balsamifera	Balsam Poplar		+			C
	P. tremuloides	Aspen		+			A
	Salix bebbiana	Beaked Willow		+			
	S. lutea	Yellow Willow		+			
SANTALACEAE (Sandalwood Family)							
	Comandra pallida	Pale Comandra, False Toadflax	C			F	C
RANUNCULACEAE (Crowfoot Family)							
	Anemone canadensis	Canada Anemone	F				
	A. multifida	Cut-leaved Anemone	F				C
	A. patens	Prairie Crocus or Anemone					F
	Aquilegia brevistyla	Blue Columbine	O				
	Clematis verticellaris	Blue Clematis					C
	Ranunculus cymbalaria	Creeping Buttercup				C	
	R. gmelinii	Yellow Water Crowfoot		+			
	R. rhomboideus	Prairie Buttercup	C	+			
	Thalictrum venulosum	Veiny Meadow Rue	F				F
FUMARIACEAE (Fumitory Family)							
	Corydalis aurea	Golden Corydalis			F		
SAXIFRAGACEAE (Saxifrage Family)							
	Ribes americanum	Wild Black Currant		+			
	R. oxycanthoides	Wild Gooseberry	+		F		F

FAMILY	SCIENTIFIC NAME	COMMON NAME	Calgary	Looma	Ministik Lake	Mirror	Porcupine Hills
ROSACEAE (Rose Family)							
	<i>Amelanchier alnifolia</i>	Saskatoon	A	A	A	A	C
	<i>Fragaria virginiana</i>	Wild Strawberry	F	A	A	C	C
	<i>Geum triflorum</i>	Three-flowered Avens	F				C
	<i>Potentilla anserina</i>	Silverweed	F				
	<i>P. concinna</i>	Early Cinquefoil					C
	<i>Prunus virginiana</i>	Choke Cherry	A		C	F	O
	<i>Rosa acicularis</i>	Prickly Rose	F				
	<i>Rubus chamaemorus</i>	Cloudberry		+			
	<i>R. pubescens</i>	Dewberry		+	C		
LEGUMINOSAE (Pea Family)							
	<i>Astragalus agrestis</i>	Purple Milk Vetch				F	
	<i>Hedysarum mackenzii</i>	Mackenzie's Hedysarum	O				
	<i>Lathyrus ochroleucus</i>	Vetchling	F		F	F	F
	<i>Oxytropis splendens</i>	Showy Loco-weed					O
	<i>Thermopsis rhombifolia</i>	Buffalo Bean	A			C	A
	<i>Vicia americana</i>	Wild Vetch			F		
	<i>V. sparsifolia</i>	Narrow-leaved Vetch				F	
GERANIACEAE (Geranium Family)							
	<i>Geranium viscosissimum</i>	Sticky Purple Geranium	C				F
VIOLACEAE (Violet Family)							
	<i>Viola adunca</i>	Early Blue Violet		A			C
	<i>V. nuttallii</i>	Yellow Prairie Violet	A				O
	<i>V. rugulosa</i>	Western Canada Violet	A		A		C
ELAEOGNACEAE (Oleaster Family)							
	<i>Elaeagnus commutata</i>	Silverberry or Wolf Willow	A			C	A
	<i>Shepherdia canadensis</i>	Canada Buffalo-berry		A			O
CORNACEAE							
	<i>Cornus canadensis</i>	Bunchberry			A		
ERICACEAE (Heather Family)							
	<i>Arctostaphylos uva-ursi</i>	Bearberry or Kinnikinnick					A
	<i>Ledum groenlandicum</i>	Labrador Tea		+			
PRIMULACEAE (Primrose Family)							
	<i>Androsace septentrionalis</i>	Fairy Candelabra					C
POLEMONIACEAE (Phlox Family)							
	<i>Phlox hoodii</i>	Moss Phlox					O

FAMILY	SCIENTIFIC NAME	COMMON NAME	Calgary	Looma	Ministik Lake	Mirror	Porcupine Hills
BORAGINACEAE (Borage Family)							
	Lithospermum ruderales	Woolly Gromwell	A				A
	Mertensia paniculata	Tall Lungwort		+		C	
LABIATAE (Mint Family)							
	Mentha arvensis	Wild Mint					F
SCROPHULARIACEAE (Figwort Family)							
	Penstemon nitidus	Smooth Blue Beard-tongue					C
CAPRIFOLIACEAE (Honeysuckle Family)							
	Lonicera dioica	Twining Honeysuckle			F		
	L. involucrata	Bracted Honeysuckle		+	C		
COMPOSITAE (Composite Family)							
	Achillea millefolium	Common Yarrow					F
	Balsamorhiza sagittata	Balsam Root					C
	Senecio congestus	Marsh Ragwort		+			
	Taraxacum officinale	Dandelion	A	A	A	C	C

Observers

CALGARY: Daphne Denton, Margaret Clarke, M.W. Battrum

LOOMA: Madeleine Dumais

MINISTIK LAKE: Margaret Berg

MIRROR: C.D. Bird

PORCUPINE HILLS: Hazel Hudson, Grace Norgard

PROVINCIAL MUSEUM NEWS FOR NATURALISTS (4)

by David A.E. Spalding
Head Curator of Natural History

The Provincial Museum is a branch of Alberta Culture, Historic Resources Division, and is situated at 12845 - 102 Avenue, Edmonton.

The last news appeared in Alberta Naturalist 6 (2): 109-111, 1976.

STAFF CHANGES

A new Curator of Paleontology joined the Museum in July. Philip Currie has come to us from the Redpath Museum in Montreal, after previous work at the Royal Ontario Museum. His recent research has been on primitive reptiles from various parts of the world, and he is making plans to get actively involved in the study of Alberta's dinosaurs. Philip has settled in Stony Plain, and a report on his fieldwork this year appears below.

Evanne Beacham, after a summer with the museum on STEP, has moved into a temporary position as Botany technician.

A PARLIAMENT OF OWLS

Our proposed owl exhibition has not quite had the response we had hoped, largely because of the number of other exhibitions in which nature artists work is featured - a healthy sign.

By slightly widening the entry conditions it was possible to mount a good exhibition at PMA, but our hopes to send it on tour have reluctantly had to be abandoned, despite interest aroused in several galleries around the province.

Showing at the PMA was from mid-December to the end of February.

EXTENSION COURSES

The museum and the University of Alberta are again co-operating in offering courses on Alberta birds. This winter a complete survey of Alberta bird families is being run by David Spalding (non-passerines) and Chip Weseloh (passerines).

FEATURE EXHIBITS - 1977

Next year's projected exhibits include a one-woman/person show of paintings by Lethbridge artist Helene White (March-May), an exhibit on Alberta Gulls, being planned by Chip Weseloh (June-August), and a retrospective of PMA habitat artist Ralph Carson (September-November). December 1977 will mark the tenth year of the museum's opening, and will be celebrated by a projected exhibit called 'The Museum Collects', which will show something of the wealth and variety of the PMA collections. Dates mentioned above are tentative, and may be changed, so check with the museum nearer the time if a visit from out of town is planned specially to see one of these.

NATURALIST'S GUIDE

Work is now commencing on the Naturalist's Guide. A contractor has been selected to analyse, synthesize and edit existing data and prepare the text, and new input is being sought from public and private agencies, societies, and individuals known to be knowledgeable about different parts of the province. Member societies were approached through FAN, which has named former president John Powell as the link in planning and preparation.

THE SAND RIVER FIELD PROJECT

During 1976, several curators and technicians put a substantial amount of time into a broad survey of the natural history of the Sand River map sheet, between Cold Lake and Lac La Biche. The area proved full of interest, and a good bird list, and more

sketchy reports on plants, mammals and geological features can be produced. These are likely to be combined into a general report in the new Occasional Papers series.

ALBERTA BIRDS, 1961-1970

After a number of delays, this long awaited publication is now available. Written and compiled by Tom Sadler and Tim Myres, the 314 page publication summarizes the most significant published and unpublished work on Alberta birds during an exciting decade, and is an invaluable resource for naturalists all over Alberta. It is available from the Provincial Museum bookshop at the incredibly low price of \$3.25 (add 75¢ P+P if ordering by mail). As the first of a new series of Natural History Occasional Papers we hope it will be well received. Our objective of disseminating useful information at the lowest possible cost will be strongly supported if the publications can be seen to be in some demand by the amateur naturalist.

Other Occasional Papers are in planning and preparation both within the museum and outside. Although the primary purpose is to make available the results of museum work, outside papers will be considered. Alberta Culture is also publishing four other series of Occasional Papers, from the Human History Section of the Museum, and the three other branches Archaeological Survey, Historic Sites, and Provincial Archives.

DINOSAUR HUNTING

The two technicians of the paleontology field program, Linda Strong and Ron Solkoski, with their new curator, have been running a very active field program this year. Several sites were prospected for fossils from a field camp on the Milk River, in south-eastern Alberta. A partial skeleton of a hadrosaur was collected from a difficult site, fieldwork being finished in late October thanks to a fine season. Several other sites are known around the province and one will be explored thoroughly next year.

A new venture was a search for footprints in the Peace River Canyon, just west of the Alberta border. A number of casts and footprints were acquired from an area to be flooded by a dam now being constructed. Access involved some very exciting boat trips up the rapids, a new experience for those used to Alberta's placid prairie rivers.

Excavation for fossils is now restricted by legislation, and the Museum staff have also been kept busy checking permit applications and advising, and sometimes assisting, permittees.

NATURALISTS' BOOKSHELF (26)

Evolution of the Amateur Naturalist

by Bob M. Fisher

#6, 531 - 64 Avenue, N.E.

Calgary, Alberta

It is astonishing how the niche of the amateur naturalist has changed in the last few centuries. From once dauntless explorers, merely out to discover and name new species, to sagacious observers of the natural history of species and subspecies, the amateur naturalist today is forced to become a guardian over nature itself. Today the naturalist is constantly witnessing the appropriation and polluting of habitats of those species that all naturalists have studied and loved for hundreds of years.

The modern naturalist is far more ecologically conscious than his counterpart of years ago. The naturalist is often frustrated by having intuitive notions about the environmental impact of certain human activities, but an inability to back these up with facts. A naturalist needs to be able to give logical arguments based on facts to an engineer or planner, before the latter will listen. Searching through a university library for the first time (or hundredth time) for such facts is often very unsuccessful, as environmental impact studies on everyday human activities are

rather scarce and difficult to search out in the literature or card indexes.

Within the last year I have found two bibliographies and one report (none of which I have seen in a university library) that are very useful in quickly obtaining the facts and other related research that a naturalist could use in building a logical argument on a specific environmental impact. I should note that these articles do not cover all impact studies done in recent years, but provide a good starting point.

Sesco, J.A. 1975. The forest products industry and the environment: a selected bibliography, 1970-1973. USDA Forest Service General Technical Report NC-18. 23 pp. Available (FREE) Forest Service - U.S. Dept. of Agriculture, Folwell Ave., St. Paul, Minn. 55101.

This bibliography contains 495 entries on selected literature concerning environmental and pollution aspects of timber production, processing and utilization. The entries are indexed by author and subject, allowing one to zero in on very specific topics ranging from aesthetics, air pollution, clear cutting, harvesting pollution, noise pollution, and road construction to wildlife and many others.

Neil, P.H., R.W. Hoffman, and R.B. Gill 1975. Effects of harassment on wild animals - an annotated bibliography of selected references. Special Report No. 37, Colorado Division of Wildlife. 21 pp. Price \$1.00. Available from: Rocky Mountain Forest and Range Experiment Station, 240 West Prospect Street, Fort Collins, Colorado 80521.

The primary purpose of this bibliography, as stated by H.M. Swore, Wildlife Research Chief, "is to furnish the people with information and sources of information, to aid in determining probable effects of various types of harassment on wildlife." There is very little research available on this type of topic, and the literature on it is difficult to find. The bibliography contains 68 entries, with emphasis on the effects of off-the-road vehicles, free-roaming pets, urbanization and other habitat alterations, and hunting.

The entries are annotated in great detail. In most cases the original paper is not even required in order to obtain the necessary information. This is an excellent reference source for both amateur and professional environmentalists and naturalists.

Anonymous 1976. Highway-wildlife relationships. Vols. I & II. Available for \$18.25 from National Technical Information Services, Springfield, Virginia 22161.

This very recent publication is a report on the state of the art and recent research compilation on the impact of highways on wildlife. This topic is rapidly becoming a very "hot" issue in North America. Unfortunately, I was not able to obtain a copy of the report to elaborate on its contents in more detail (\$18.25 will buy a student groceries for a week).

NATURALISTS' BOOKSHELF (27)

by Wayne W. Smith
8220 Elbow Drive
Calgary, Alberta

Alberta Birds, 1961-1970, With Particular Reference to Migration. Compiled by T.S. Sadler and M.T. Myres. 1976. Provincial Museum of Alberta, Edmonton. 314 pp. \$3.25. Soft Cover.

The objective of the series of Occasional Papers, of which this book is one is stated to be, "to permit the rapid dissemination of information resulting from Historical Resources' programmes. They are primarily intended for interested specialists, rather than as popular publications for general readers. In the interests of making information available quickly to these specialists, normal production procedures have been abbreviated." This is a lofty and ideal objective, which the Provincial Museum has attempted to carry out in a manner typical of the bungling bureaucratic process of government organizations.

In the first place, this book appeared in November 1976, a little more than two years after the manuscript was sent to the museum to be published. To take two years to make this information "available quickly" is just a little ridiculous. Secondly, not only have "normal production procedures ... been abbreviated", but also all quality control has been sacrificed, resulting in a full page of errata. The two worst mistakes are: 1) the screw-up in pagination resulting in having to add 35 to all page numbers in the indices; and 2) the misspelling of M.T. Myres' name on the spine of the book (covered by a semi-gummed label). There are numerous additional errors, only some of which are listed on the errata sheet. However, none of these errors are the responsibility of the compilers. The blame rests solely on the Provincial Museum.

Now to the book's contents. First, I heartily applaud Dr. Myres for his conceiving of this book. Dr. Myres has made himself known for his pioneering efforts in the organization of amateur bird watching into a useful scientific tool.

The main objectives of the book are to: 1) "place on record for all time the most interesting ornithological occurrences", 2) record all pertinent information on the spring and fall migrations of Alberta's birds, and 3) "provide a model for future ... reports on the birds of Alberta." However, I agree with the compilers' acknowledgement that "the data presented in this volume is very incomplete." None-the-less, this book is a great beginning.

The compilers do not accept responsibility for the accuracy of the observations published (and rightly so), but have exercised their judgement in deciding what to include. Unfortunately, neither compiler is competent as a field ornithologist, and their judgement on observations reflects this, resulting in many minor inaccuracies. The compilers make, to my mind, a fantastically pseudo-rational statement that capsulizes their attitude: "Perhaps the reports of some observers suffered more than others as a result of our editorial selections, but lest this should be misunderstood, we should state that we excluded reports from even the most reputable observers." If one is a reputable observer, then why should reports from this person not be acceptable? This makes no sense to me.

A feature I found excellent in this book is the 13 page summation of major weather patterns for the 10 year period covered. This is a great aid to understanding many of the migrational patterns, in particular, for some species of birds. This sort of thing should be done more often.

Other contents of this book are: Bird Highlights of the Decade; Sundays, 1961-1970; Location Guide and Map; List of Contributors; Publications on Alberta Birds During the Decade, 1961-1970; Index to Scientific Names; and Index to Vernacular (English) Names.

The main part of the text (232 pages) is devoted to species, records and summaries. Unfortunately the data for each species is presented in a highly confusing assortment of symbols. There are many minor mistakes in the species' accounts that I found annoying, such as sloppy use of initials, inconsistent use of literature citations, and a large number of blurred pages.

This book is unfortunately destined to become mandatory reading for amateur ornithologists throughout the province. The idea of the book was a very good one; it is unfortunate that it is chock-full of printing errors, judgemental errors, and inaccuracies.

NATURALISTS' BOOKSHELF (28)

by Wayne W. Smith
8220 Elbow Drive
Calgary, Alberta

The Birds of Alberta (with their ranges in Saskatchewan and Manitoba). by W. Ray Salt and Jim R. Salt. 1976. Hurtig Publishers, Edmonton. 498 pages. 303 colour illustrations. \$10.00. Hard Cover.

The newest "Birds of Alberta" has just recently appeared. But, as the dust jacket of the book states, this book "may have a familiar-sounding title, but it is a totally new book."

If one compares the 1966 edition of "Birds of Alberta" (by W. Ray Salt and A.L. Wilk) to this present volume, there are several noticeable differences. The text is basically very well written, and at times almost poetic. The text, under the Remarks section, is packed full of a variety of informative statements. To me, this is one of the most important aspects of the book. There is only one small annoying point about the text. This is the lack of many punctuation marks which makes the text slightly confusing in parts, particularly as the authors tend to use some very lengthy sentences.

The next difference is the super-abundance of colour photographs. These alone make the book a good buy. I would particularly draw attention to Edgar T. Jones' photographs, especially the warblers. Unfortunately, there appears to have been some problems in reproducing the photographs in the book during the printing process. Many of the photographs were rendered washed-out and some have poor colouration. In particular, the Hermit Thrush (p. 327) has a definite blue tinge. There are a variety of colour drawings, primarily by Ralph Carson and Ludo Bogaert. Both artists do excellent work, but Ludo Bogaert seems to suffer from an inability to use bright, life-like colours in his paintings.

The last major difference is found in the range maps. Gone are the large outlines of Alberta with letters indicating abundance. These maps have been replaced by smaller maps showing a general range for the three prairie provinces.

As in any book, there are some errors, mostly of a minor typographical nature. These do not detract from the basic quality of the book. However, there are a couple of points I found slightly irritating.

First, why is the Long-tailed Jaeger listed as being hypothetical, when the species was accepted in the 1966 edition? Also, on 12 June 1966 a Long-tailed Jaeger was observed in Alberta, with a documentary photograph taken. ("A 35mm. colour transparency was taken of the jaeger ... The photograph shows the bird to be definitely a jaeger and with some magnification the long central tail feathers are discernible." -Halladay 1966).

The second point concerns the occurrences of Glaucous, Glaucous-winged, and Thayer's gulls in the Calgary area in 1972. If one reads the original articles in which these observations were first published (Weseloh & Lang 1973; Weseloh & Owens 1973; Weseloh 1975), it then appears that the authors of the "Birds of Alberta" have made several incorrect statements concerning the number of birds involved, the dates of occurrence, and the behaviour of the birds. I refer readers to the above three articles in order to make their own interpretations. It appears that the authors have not made as careful a search of the literature as they could have.

However, these criticisms are all of a minor nature. The book has been eagerly awaited; and now that it has finally appeared, it is well worth its \$10.00 price tag.

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NATURALISTS' BOOKSHELF (29)

Reviewed by Julie Hrapko

The Plant Fanciers' Guide to WILD FLOWERS in the Edmonton Area

Prepared by Roger Vick

Published by Edmonton Parks and Recreation, 36 pp., illus. \$1.95

Published in the spring of 1976, though the date is not shown, this is a very handy and useful pocket-sized booklet for identifying over 100 of the more common herbaceous species of our native flora. Although focused on the immediate Edmonton area, it may be used in other parts of Alberta, especially other aspen parkland areas. It is designed with both amateur and professional botanists in mind.

The introduction includes a short but good description of the various natural habitats in Edmonton and the major environmental factors that contribute to the development of that variety. This approach is carried on into the identification key that follows, with plants conveniently divided according to aquatic, wetland, woodland or open dryland habitats.

A good illustrated section on why and how to use a plant key precedes twelve pages of the easy-to-use key which is really the focal part of this publication. Only native plants are included so even very common weeds have been excluded if they have been introduced to Alberta. A line drawing of one plant per page and several extra drawings in the centre greatly enhance this section. It would have been nice if all plants could have been illustrated, though this would have made the guide larger and thus more costly. Credit for the fine illustrations, which were done by Gillian Ford, was unfortunately omitted by the publisher.

Twelve more pages are devoted to plant families, and the various characteristics, relationships, and uses of the family members are discussed briefly. This section is both useful and entertaining, reflecting the author's sense of humour and picturesque writing style. The index to plant families on the final page, however, disagrees with the pagination in the text.

As the author points out, the booklet is really an introduction to identifying wild flowers and the user is directed to seeking further information in more complete texts. A list of fourteen selected references for this purpose is given near the end.

The reviewer would personally prefer the title shortened to Wild Flowers in the Edmonton Area, as the plant fancier suggests a

horticultural inclination and the title might possibly be misconstrued as a guide for cultivating wild flowers. Had the publisher not omitted the conservation note which was originally included by the author, this possible misinterpretation would have been avoided.

Although the illustrations accompanying the key are well done and attractive, the publisher's cover illustration is an unfortunate choice and rendition of the cultivated crocus. This and the unappealing purple and off-green colour combination are the main detractions of the otherwise well-done booklet.

The Plant Fanciers' Guide to Wild Flowers in the Edmonton Area is a very welcome, useful, and readable addition to our slowly but steadily growing list of publications on Alberta's natural history. It is highly recommended to any one with an interest in our native flora.

We are now looking forward to Mr. Vick's forthcoming comprehensive publication on woody plants of the Edmonton area.

RECENT PUBLICATIONS ON THE NATURAL HISTORY OF ALBERTA (20).

SECOND COMPILATION OF LESSER-KNOWN REPORTS

by Jim Case

Department of Biology

University of Calgary, Calgary

Alberta Department of Federal & Intergovernmental Affairs.

Alberta human settlement policies. Prepared for United Nations Habitat Conference, Vancouver, May 31-June 11, 1976. Edmonton, May 1976. 31p. maps (col)

Alberta Department of Municipal Affairs. Special Projects and Policy Research Branch.

Alberta habitat demonstration projects. Edmonton, May 1976.

188p. maps (col). Compiled in preparation for Habitat conference.

Alberta. Department of the Environment. Environmental Co-ordination Services.

Cabinet tour of central Alberta: Alberta Environment briefing notes. Prepared for Central Alberta Cabinet tour, June 6, 7, and 8, 1976. Edmonton, May 1976. 1v. (various paging).

Alberta. Department of the Environment. Planning Division.

Planning report on River Basin Commissions. By B.D. Thierman. Edmonton, July 1974. 25p. maps.

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Commercial supersonic air transportation in Alberta: a preliminary analysis of environmental impact analysis - a staff report. Prepared by R.E. Rogers. Edmonton, April 1976. 65p. illus. (Alberta. Sessional Paper 576/76). Tabled May 12, 1976 by the Hon. D.J. Russell.

Alberta. Environment Conservation Authority.

Flow regulation in the Red Deer River: preliminary report and recommendations. Edmonton, February 1976. v. 28p. (Alberta. Sessional Paper 511/76). Tabled March 10, 1976, by the Hon. D.J. Russell.

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Review of coal exploration policies and programs in the eastern slopes of Alberta: report and recommendations. Edmonton, January 1976. 113p. illus. (Alberta Sessional Paper 504/76). Tabled March 8, 1976 by the Hon. D.J. Russell.

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Canada. Federal-Provincial Task Force on a Canadian Action Plan Respecting the Environment.

Canada's environment: a framework for action. Ottawa, Canada. Department of the Environment. Planning and Finance Service, June 1975. xxiv, 104p.

Canadian Council of Resource and Environment Ministers. Task Force on Forest Policy.

Forest policies in Canada. Prepared for the Canadian Council of Resource and Environment Ministers. n.p., June 1976. 3v.

Crowther, Richard L.

Sun/earth: How to apply free energy sources to our homes and buildings. By Richard L. Crowther and others. Denver, Colo., Crowther/Solar Group. 1976. vii, 232p. illus. Glossary: p. 223-227. Bibliography: p. 217-222.

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Hydrogeology of the Vermilion area, Alberta. By D.V. Currie, and N. Zacharko. Edmonton, Research Council of Alberta, 1976. 15p. illus., map (col., fold. in pocket) (Research Council of Alberta. Geological Division, Report 75-5). Bibliography: p. 14-15.

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LETTERS TO THE EDITOR OR TO FAN

Bucks for Wildlife

"I was pleased to hear of our contribution to the Provincial Government's Habitat Program. This type of action cannot help but have a positive effect on the future management of non-game wildlife in this Province. Has the executive considered making an annual contribution to this program?"

Steve Brechtel
Edmonton

The Alberta Naturalist

"Please try and have more interesting articles in your magazine. Such as in the Edmonton Naturalist."

Mr. & Mrs. J.C. Finlay
Edmonton

Editor's Note: Our articles are determined by the authors who send them. Many of the people who publish in the Edmonton Naturalist also write for the Alberta Naturalist. The Editor has requested articles verbally or in writing from over 30 possible contributors, but although such requests are usually received enthusiastically, the return rate is both low and slow. -M.K.M.

"I was pleased to see the articles on shark teeth in Alberta, and on Muskrats eating Sticklebacks (the fish of most of my research)."

Joseph S. Nelson
Edmonton

"Congratulations for producing a very fine publication. Alberta has needed something like the Alberta Naturalist for a long time."

Kenneth B. Trann
Kingman

"I wish to renew my subscription to the "Alberta Naturalist", which I feel is a great publication, with a wide view of subjects in the field of nature. Thank you and continue your great effort."

William G. Haras
Medley

"Alberta Naturalist is getting better and better - Great reading!"

Gerry Wilkie
Banff

"Please find enclosed cheque for my membership renewal; and to tell you how very much I have enjoyed the Naturalist publication. While reading the articles I realize that there are many dedicated people within Alberta who are concerned with the environment, not only of the present but for the future, and as a Horticulturalist I say to you all "Thank you"; and we will hope that there will be some measures of control taken by our Governments before it is too late."

(Mrs.) Doris Haddock
Calgary

"The Alberta Naturalist is a splendid contribution to our nature study. I have been a President here for 6 years past; also Director for FAN and I am very interested in all aspects of nature study and conservation."

Mrs. E.M. Scoular, Red Deer

November 22, 1976.

Mrs. Dorothy Broadbent,
President,
The Federation of Alberta Naturalists,
Box 1472,
Edmonton, Alberta.
T5J 2N5

Dear Mrs. Broadbent:

On behalf of the Honourable Barney Danson, I refer and thank you for your letter of 8 October 1976, to Mr. Richardson in which you expressed the concern felt by the Federation of Alberta Naturalists over the use of certain portions of the Suffield Military Block.

As you may be aware, the whole of the Suffield Block is held by the Federal Government primarily for military training purposes. The usage of any portion of this Block for other than this purpose can be permitted only when this non military use does not interfere with planned military training operations.

It is in accordance with this principle that this Department has placed restrictions on military training activities in the Middle Sand Hills area, the Mixed Grass Prairie zone and the South Saskatchewan River corridor under a 1971 agreement with Environment Canada which, as you know, includes the Canadian Wildlife Service. In addition, we permitted some cattle grazing in the area but only during periods of emergency drought.

Conversely, it is under this same principle that this Department would not be able to permit the establishment of a permanent special use area under the control of another agency nor the use for cattle grazing of an area currently needed for military training.

It is hoped that the foregoing has served to clarify this Department's position and to ease somewhat the well-intentioned concern of your Federation.

Yours sincerely,

M.G. Cloutier,
Executive Assistant.

April 8, 1976.

Mrs. Dorothy Broadbent,
President,
Federation of Alberta Naturalists,
R.R. #4,
Red Deer, Alberta T4N 5E4

Dear Mrs. Broadbent:

Re: Great Horned Owl as Provincial Bird

Thank you very much for your several recent letters about the Great Horned Owl. I indeed appreciate that this is not solely a suggestion by the Federation but that you have sought wide support before making the recommendation.

As you note in your letter of March 24th, I announced the results of the ballot in the Legislature on March 19th, and indicated that we would be proposing adoption through legislation as soon as possible. Pressures of business have been such that we have not been able to give this matter the attention it deserves, but I am investigating the possibility of amending the Emblems Act during the fall session.

Your patience in this matter is indeed appreciated, and I too look forward to Alberta's adoption of a provincial bird emblem.

Sincerely yours,

Horst A. Schmid,
Minister of Culture.

C.C. Hon. James L. Foster, M.L.A.
Hon. Peter Lougheed, Premier

FAN NEWS, REPORTS AND PROJECTS

Results of Publication Questionnaire

by Martin K. McNicholl
Chairman, Publications Committee

A total of 22 members responded to FAN's publication questionnaire, one twice. Graeme Greenlee and Virginia R. Maitland were the only FAN directors who responded under signature. Mrs. Maitland, D.V. (Chip) Weseloh, and Betty Bulmer were the only past or current editors of other Alberta natural history publications who responded. Thus, our membership is either little interested in the Alberta Naturalist or generally pleased with it. Seven responses were anonymous. Others were from: Ed Baldwin, B. Gordon, Greg Harris, C. Stuart Houston, Bruce Jones, Norbert Kondla, Eilene M. Reid, Allen Ronaghen, Philip Smerck, Jim Vanden Brink, and Maureen White. These responses were from 14 localities, all in Alberta except Saskatoon, Saskatchewan, as follows: Banff (1), Beaverlodge (1), Calgary (5), Canmore (1), Edmonton (3), Fort Saskatchewan (1), Islay (1), Lethbridge (2), Rocky Mountain House (1), Saskatoon (1 new reply, plus one from the member formerly from Islay), Stettler (1), Vegreville (1), Wainwright (1), and one from an unknown locality. Additional comments have been received more recently in letters published in the September 1976 and current issues.

I have tabulated the responses to questions 1 and 2, followed by a discussion of these plus additional comments listed under question 4 or in letters. Question 3 is then tabulated separately.

1. Are you generally satisfied with the style, content and format of the Alberta Naturalist at present?

Yes 20 No 2 No Answer 1

I have counted Mr. Ronaghen only once. One of the "No's" also answered "Yes", indicating he was generally satisfied, but wished for more illustrations. One person had seen only one issue, and thus felt unqualified to answer.

2. Given the choice of the AN style, a scientific journal and/or a glossy magazine, would you prefer:

AN only	<u>9</u>	AN + glossy	<u>4</u>
scientific only	<u>0</u>	scientific + glossy	<u>0</u>
glossy only	<u>0</u>	All three	<u>5</u>
AN + scientific	<u>4</u>	no regular publication	<u>0</u>

C. Stuart Houston expressed a strong case against a second scientific journal for natural history on the Canadian prairies. Several that did indicate interest in a scientific journal (only, however, in addition to the current magazine) expressed a desire for reports on scientific work in lay terms, and thus did not in fact seem desirous of a scientific journal per se. Chip Weseloh did indicate interest in a purely Alberta journal of this nature, and Norbert Kondla regretted there was no longer a serious journal for naturalists in the Canadian prairies as was exemplified by the Blue Jay until recently. Both Chip and Norbert, however, are not interested in competing with scientific journals, but rather in having scientific types of articles of Alberta interest published in the Alberta Naturalist, and thus are not really at variance with the general feeling expressed. Jim Case has since suggested we referee articles, which would make us a highly scientific journal, but Dr. Houston felt such an attempt would probably kill the Blue Jay and fail for the Alberta Naturalist. Cam Finlay has verbally expressed regret at articles being too scientific, but his example was a FAN project report designed to interest members in the project in question, and not of the nature published in scientific journals. In general, then, the consensus appears to favour some scientific style articles of local interest, and popular articles on scientific work, but not highly technical articles of the type published in scientific journals. Obviously,

there will be some overlap, but I believe the material currently published in the Alberta Naturalist is of the sort desired. Long FAN project reports could perhaps be published separately when funds for more publications become available.

Those who indicated interest in a "glossy" magazine as well as the Alberta Naturalist commented that they wished more photographs and drawings along with the type of articles currently published. This can be accomplished as funds become available, and Dick Dekker has volunteered his advice on layout and design when this becomes feasible. Several persons have also volunteered photographs.

Thus, I believe we should maintain our current style, but expand into more illustrative material. A strong sentiment was expressed to keep the content Alberta in nature, and to retain local news items, including club news. Thus, these items should remain, perhaps in a section similar to the "yellow pages" of Nature Canada.

Several persons typed the response, or sent them on a xerox copy, rather than lose p. 43 of that issue of the A.N.

Additional comments for FAN, not directly for the A.N. included the urging of more effort to create public awareness of the importance of nature among rural people; the need for more clubs in remoter areas; and a request for decals and membership cards.

Answers to Question 3 follow:

"Would you be willing to pay higher dues to receive an expanded publication or additional publications?"

Yes 16 No 6 No Answer 1

Guide to Typists, Authors and Proofreaders for Articles in A.N.

1. Typing of articles - If one article ends on the first two-thirds of a page, the next article should begin on the same page unless there are specific instructions to the contrary from the Editor. Articles ending closer to the bottom of a page should be followed by an "Overheard."
2. Titles - Titles of all major articles and major note headings should be in block capitals enclosed in lines above and below. i.e.: FOODS OF RED FOX, LETTERS TO THE EDITOR, NATURALISTS' BOOKSHELF (), etc. Titles of letters, Naturalists' Bookshelf titles (i.e.: the book reviewed), committee titles under FAN NEWS, club names under CLUB NEWS, and individual items under CONSERVATION NEWS and NOTES AND NEWS should appear with the first letter of each word a capital, the rest small, and underlined but with no line above, e.g.: The Birds of Alberta, Report of the Publicity Committee, Sunshine Village Controversy, Karvonen Wins Award, etc. Connectives such as: of, the, and, but, as, should remain in small letters in such titles.
3. Author's name and address - In major articles the author's name and address will appear on a line by itself under the title, and preceded by "by", e.g.:
by W. Ray Salt, Department of Anatomy, University of Alberta.
Names of reviewers and committee reporters may follow this format OR follow the review or committee report. Titles (Dr., Sir, etc.) will not be used on author's names.
4. English names of animals should be capitalized, e.g.: Red Fox. This applies to full names only, not general names, e.g.: foxes. In hyphenated names the first letter of the word following the hyphen is small, e.g.: Green-winged Teal. Thus, correct usage: Yesterday I was watching a flock of Mallards, Northern Shoveler, Green-winged Teal, Blue-winged Teal, and Redheads, when I noticed a Red Fox prowling along the shore. Suddenly, the fox grabbed a sleeping Green-winged

Teal, causing all the other ducks to fly ...

5. Scientific names, as always in literature must be underlined, with first (genus) name beginning with a capital and species and subspecies with small letters, e.g.: Vulpes vulpes, Anas carolinensis, etc.
6. All bird names should follow the latest A.O.U. check-list and its supplements. If a distinguishable race has been identified it should be named as such, e.g.: Yellow-rumped (Myrtle) Warbler - rather than Myrtle Warbler or just Yellow-rumped Warbler.
7. Spelling - Canadian, not American spelling should be used in the text in all cases, e.g.: colour, behaviour, grey; NOT color, behavior, gray. In proper names, however, this does not apply, as the correct spelling is the official one, e.g.: Gray Jay, not Grey Jay, but Grey Plover, not Gray Plover. Spelling in titles of literature Cited should be exactly as it was in the original, even if there was a mistake in the original.
8. Literature Cited - All literature Cited should appear as a list in alphabetical order of author after the article. The author's name will come first, with surnames first, followed by a comma and his initials. If there is a second author, the name of the first will be followed by a comma, the word "and", and the author's name, with initials first, thus: Adams, J.R., and H.K. Brickhead. The last author's name will be followed by a period, a space and the year of the publication, thus: Adams, J.R., and H.K. Brickhead. 1965. Next comes the title of the paper or the book. The first word and proper names will be capitalized, with all other words in small letters. Example: The Little Gull and other birds observed on a canoe trip in northern Alberta. Titles should be exactly as in the original, with original spelling, abbreviations, etc. For example: Alta. must remain as Alta., NOT Alberta, and Alberta should not be changed to Alta. Typist should assume that all such titles are correct, even if there are spelling mistakes within the title. Authors may

wish to indicate errors by inserting sic with square brackets after the misspelled word, e.g.: Birds observed on the Saskatchewan (sic) River in Alberta. No titles will be underlined. Journal names must be recognizable, but need not be full (consult the recent literature section for examples). Calgary Field Naturalist could appear as Calgary Field Nat. but not as C.F.N. Typists should never alter journal abbreviations, assuming they have been scrutinized by the Editor. Canadian Field-Naturalist, for example always has a hyphen, Calgary Field Naturalist does not. Journals should always be underlined. For books, the title should be followed by city of publication, then a comma, then the publisher, e.g.: Edmonton, Hurtig; New York, McGraw-Hill, etc. All pages should be listed for an article in a journal or within a book, whereas the total number of pages of a book may or may not be listed, providing that the author is consistent. In other words, list pages for all books or none. An example of correct literature cited follows:

Literature Cited

- Adams, J.R. 1976. The birds of Edmonton. Edmonton, Hurtig.
- Adams, J.R., and B.K. Brickhead. 1965. An ecological study of the Downy Woodpecker in an Edmonton ravine. Canadian Field-Nat. 45: 12-23.
- Adams, J.R., D.V. Weseloh, and B.K. Brickhead. 1972. Behaviour of woodpeckers in winter. Edmonton Nat. 4: 3.
- Brickhead, B.K. 1974. Birds of an Edmonton ravine. Nature Canada 1(3): 2-6.

Note that journal numbers (volume) are followed by a colon and the page numbers, then a period. 4: 25-28. Issue numbers should not be included, unless each issue is numbered separately, as in Nature Canada. Thus, Calgary Field Nat., Edmonton Nat., and most journal articles will not include an issue number, but Nature Canada, many magazines and newsletters,

and some old volumes of journals will.

The President's Page

by Dorothy Broadbent
R.R. #4, Red Deer, Alberta

1976 has been a year of progress for FAN. Our corporate membership has risen to eight with the addition of the newly formed High River Naturalists. Another club has started up in Northern Alberta. I hope they, too, will soon join the Federation.

FAN has been officially recognized by the Department of Culture as the major natural history group in this Province. This enables the Federation to be eligible to receive several grants but it also places a burden on this organization to remain the leading natural history group and to adequately represent the concerns, opinions and interests of all the naturalists in this Province.

As our membership increases and FAN becomes involved in a wider range of activities, the work load of the executive also increases. Over the past year, I have found my task as President to be difficult and time consuming. I do not look forward to another year in office, it is a great temptation to go birdwatching or skiing and leave the work to someone else. Unfortunately, too many people have this attitude. Thus, the affairs of the Federation are handled by a few overworked Directors.

The Nominating Committee, consisting of Mike McIvor and Frank Harper, have had a difficult time, trying to nominate Directors to chair committees or take on executive positions. Most of the FAN Directors also hold executive positions within their own clubs, and so do a double stint of duty. Some of the Directors are finding the load just too heavy; one has already resigned.

If the Federation is to maintain it's place as the leading naturalist organization, then more members must become involved and

share the administrative load. FAN is the only group uniting all the naturalists and nature clubs in this Province. To be effective, we must become better organized and we must be represented on all issues related to nature and the environment. We cannot accomplish this with just a handful of Directors, no matter how dedicated they may be.

Naturalists often complain that the Government caters to the Fish and Game organizations but ignores the wishes of the naturalists. This is because the hunters are well organized, able and willing to voice their concerns and requests. In the past naturalists have tended to avoid conflicts, content to let someone else do the fighting. Not long ago a spokesman at a Federal-Provincial Wildlife Conference said this about naturalists, "For years we have carried these people on our backs like parasites." Now that we have made a contribution to the "Bucks for Wildlife Fund", we have acknowledged that we are also consumers of wildlife, willing to pay for the privilege.

Chief Walking Buffalo once said, "The white man is at war with nature, and that is dangerous." I believe naturalists are more in harmony with the natural environment than anyone else at the present time. We are aware of the harm thoughtless developments can cause to sensitive areas and wildlife populations; not only are we knowledgeable about nature, but we also have an empathy with the natural world around us. Many environmental issues will arise during 1977: our Provincial Government has plans for two major dams, more petro-chemical plants, thermal electric power stations and open pit coal mines. Many unique regions will be lost, valuable vegetation and wildlife populations destroyed, unless naturalists and environmentalists teach the public the value of preserving natural habitat. Politicians must be made to realize the true price of unlimited industrial expansion and urban growth.

The Federation should provide a forum where naturalists from all parts of Alberta could share their knowledge of unique areas and interesting or threatened species. FAN should be aware of all environmental concerns and should be represented at all environ-

mental hearings in this Province. At present this is impossible, since The Land Use Committee and The Wilderness, Parks and Natural Areas Committee each consist of one person, the chairman. To be effective these committees need representatives from all over the Province.

The February Annual General Meeting will be held at Camp Caroline the weekend of February 25th, 26th and 27th. Resource people will be present to help naturalists learn how to conduct meetings, field trips and how to become politically effective. This is an opportunity for the nature lover to find out how he can become involved in the struggle to save some of Alberta's natural areas and disappearing wildlife.

Although the Provincial Government still has not officially designated the Great Horned Owl as the Provincial Bird, Terry Thormin has designed a very attractive crest for FAN depicting the Great Horned Owl. Hopefully, this will spur our Government into some action. The crests will be on sale at the Directors meeting. The Edmonton Natural History Club has sponsored this project. It will enable FAN members to easily recognize one another when taking part in field trips. We will no longer need to look for a copy of the Alberta Naturalist flying from a car aerial, or search a crowded campground looking for preoccupied people carrying binoculars and bird books. Thanks Terry and Marg; we really appreciate the work you put into making these crests possible.

I know everyone who has been fortunate enough to meet Helen Schuler, one of our most dedicated Directors, will join with me in wishing her a speedy recovery.

2nd Annual Provincial Species Count Day

The response to last year's call for a Provincial Species Count Day was outstanding: more than 75 naturalists from across Alberta recorded 195 bird species, 20 mammal species and over 255 species of plants in flower (see botanical addendum elsewhere in this issue).

Because of this great enthusiasm, a 2nd Annual Provincial Species Count Day is being planned. The dates selected, again, occur on the last weekend in May, i.e.: Saturday 27 May and Sunday 28 May. As in last year's count, you may conduct your count(s) on either day, or if you are really keen, as several groups were last year, you may do a different count in a different area on each day of the weekend. The only alternative which is not permissible is to count the same area on both days. Please see the March 1976 issue (pp 47-50) for the complete set of rules.

In order to facilitate greater organization and enthusiasm at the local level, we are going to use the "regional co-ordinator system" which worked so well last year. Thus, anyone who wishes more information on the Count Day, call your nearest co-ordinator, or contact me at the Provincial Museum in Edmonton.

<u>REGION</u>	<u>CO-ORDINATOR & ADDRESS</u>	<u>PHONE</u>
Lethbridge	Helen Schuler 2630 - 22 Avenue Lethbridge	327-1830
High River	Loren Hettinger Box 1711 High River	652-7051
Calgary	Joel Duncan 1728 - 107 Avenue, SW Calgary	252-4387
Banff	Geoff Holroyd Box 1343 Banff	762-2398
Red Deer	Eldon Neufeld 5810 - 59A Street Red Deer	343-1542
Stettler	Virginia Maitland Box 1888 Stettler	742-3970

<u>REGION</u>	<u>CO-ORDINATOR & ADDRESS</u>	<u>PHONE</u>
Edmonton	Terry Thormin #8, 12120 - 103 Avenue Edmonton	482-2831
Grande Prairie	Yvonne MacAlister R.R. #2 Grande Prairie	766-2467
Province-at-Large	Chip Weseloh 12845 - 102 Avenue Edmonton	452-2150

CLUB NEWS

Bow Valley Naturalists

The December 1976 Newsletter of the B.V.N. contained the winter-spring 1976/77 program. On December 14 a meeting was planned to discuss a Vermilion Lakes Project, consisting of natural history values studies of this beautiful area by club members. A publication is planned when the project is complete, and the club hopes the results will aid Parks Canada staff in interpretive and mangement programs. A detailed proposal for the project is outlined in the newsletter. I'm sure the club would welcome additional input from naturalists throughout the province. Write: B.V.N., Box 1693, Banff, Alberta TOL OCO, for further information. Both popular and scientific publications are hoped to result. The Wednesday, January 26th meeting did not have a set program at that time. The February 23, 1977 meeting is to be the Annual meeting, at which Dennis Jacques will present a slide presentation on vegetation, wildlife and coal in the northern Rockies. Jim Butler, who has also spoken to the Edmonton Natural History Club and Calgary Field Naturalists Society this fall, will speak on Alberta's provincial parks on March 23rd. Finally, Cliff Wallis and Cleve Werschler will present their much acclaimed film, "Before the Deluge" on April 27th. The 1977 Newsletter #1

announces that the January meeting will be a presentation by Keith and Margie McDougall on their FAN project on Elk Island and Wood Buffalo National Parks. The newsletter also contains the results of the Christmas Bird Count at Banff on December 19th, and one at Bow Summit on January 2nd. These will be published in the June Alberta Naturalist, but I must mention the Banff highlight - a PYGMY NUTHATCH, a species on the hypothetical list for Alberta.

Buffalo Lake Naturalists

The December 30, 1976 newsletter of this club reports a bus trip to the Provincial Museum in Edmonton on November 14th, together with the Stettler Rockateers. On November 18th, Mark Trudell of Parks Canada addressed the club on Elk Island, with slides shown by Clayton Bugler. Editor Virginia Maitland expresses concern for the Coyote in Alberta, and urges members to be on hand when a truck arrives in Stettler to buy unskinned Coyotes. The Christmas Count, held on December 19th, was followed by a pot-luck supper.

Calgary Field Naturalists' Society

The Calgary club is suffering from the lack of an Editor, so the January and December issues of the Calgary Field Naturalist were combined, much to the chagrin of bibliographers. Tom Webb of Edmonton addressed the society on November 17th on Butterflies and moths. A Members Night was held on December 15th, with six items on the agenda. Bob and Mary Smith of Seebe, Alberta were to address the January 19th meeting on "Botany of the foothills and mountain region-western Canada." Your Editor is to address the February 16th meeting on Blue Grouse, Nighthawks and other Vancouver Island birds. The club continues to have an active program of study nights, junior meetings, and field trips.

Edmonton Bird Club

The December meeting of the Edmonton Bird Club featured Bill Koski of LGL on "Birds of the Arctic." The Annual Bird Club Banquet was held on January 22nd, at which I am told Bob Lister was given a special award (see Notes and News).

Edmonton Natural History Club

Dr. Jim R. Salt addressed the December meeting on "Natural history of the Cardinal Divide, Alberta." Several members showed slides at the Members Night and Annual General Meeting on January 11th, at which Prof. W. Ray Salt was awarded the second annual Loran L. Goulden Memorial Award (see Notes and News). J.C. Holmes is to address the February 8th meeting on "Parasites and Predators." The club also has a number of workshops in progress.

High River Naturalists Society

Greg Wagner sent the following report on our newest Corporate Member Club:

"In December the HRNS held its general election. Loren Hettinger was voted in as President, Jack Shier became the Vice-President and Kim Kerpin took over the post of Secretary-Treasurer. Kim Kerpin and Marie Goodfellow became the HRNS representatives to FAN. At this same meeting, members were treated to Loren Hettinger's slides of the Arctic. Our Christmas Bird Count was held on December 18th, but due to the bad weather only 6 species were tallied. During the month of January a course in grass identification is being given by Charles Jauch. The Club will also be making recommendations to town council as to what should be done with High River's bird sanctuary."

Lethbridge Naturalists Society

We regret to learn of the illness of former L.N.S. President,

Helen Schuler, a former Treasurer of FAN, and wish her a speedy recovery. Lynn Richards sent the following list of officers for the 1977 Executive: President - Lynn Richards; Vice-President - Mike O'Shea; Recording Secretary - Diana Williams; Corresponding Secretary - Hazel Ross; Treasurer - Mary Richards; Directors - Mary Bailey, Alice Harper, Mike Harrop and Paul Wilkinson.

Northern Alberta Nature Club

President Yvonne MacAlister reports that this club's annual meeting was held on January 16th. The club is hoping to get into the Society Act with a newly formed constitution, and will hopefully be ready to join FAN in the near future.

Red Deer River Naturalists

The November 1976 issue of the club's Newsletter reports that Richard Fyfe was to address a November 25th meeting on Peregrine Falcons and other endangered raptors. The January 1977 newsletter reports a planned talk by Harry Stelfox on a study of Yukon Grizzlies and another study on the Churchill River. A Christmas Bird Count was held on December 27th, and a winter outing to Sylvan Lake on January 23rd.

CONSERVATION NEWS

Editor's Note: See also the articles by Ronaghen and McNicholl; Naturalist' Bookshelf (26), Letters to the Editor or FAN, the President's Page, and Club News.

Ski Facilities:- The attention of conservationists has been much focused in the direction of proposed developments at Sunshine lately. How many realize the extent of expansion of ski facilities at almost all major ski resorts in Alberta this winter?

Elaine Smith and Marilyn Reynolds detail countless expansions and proposed expansions in the November 1976 issue of Alberta's Western Living. The reason of course is high numbers of people wanting to use the slopes (Sunshine and Lake Louise are specifically singled out for this problem). These high numbers are at least partly the result of widespread promotion (if you are bilingual - English and Japanese - you are almost guaranteed a job). Two questions come to mind. Are these various expansions properly evaluated before taking place? And, is all the promotion really necessary, or even desirable?

Whooping Cranes:- The Canadian Wildlife Service is quoted in a Regina Leader-Post article on November 13, 1976 as stating that 12 young Whooping Cranes migrated south from Wood Buffalo National Park this fall. Added to three juveniles and three yearlings hatched by Sandhill Cranes in Idaho and the surviving adults, this brings the world total to 95 Whooping Cranes, with the greatest number of young migrating south since 1938. Perhaps there is hope for the great white birds after all.

Man's Influence on Climate:- What influence does Man's activities - smog, dams, irrigation, even dust from tractors have on World climate? Apparently relatively minor disturbances caused by us could have profound effects. The carbon dioxide we belch into the air at such a prodigious rate could increase average World temperature as much as 2 degrees C. by 2000 A.D. according to some scientists. For a fascinating look at climate and its causes, plus a frightening consideration of Man's potential influence, read "What's happening to our climate?" by Samuel W. Matthews in the November 1976 National Geographic 150: 576-615, and the following article, "Laboratory in a dirty sky" by Rudolf J. Engelman and Vera Simons (pp. 616-621).

Pipeline News:- "Pipeline Update" No. 14, October 25, 1976 of the Canadian Wildlife Federation notes plans by the National Energy Board to expedite the hearings on the MacKenzie Valley Pipeline by increasing hearing time, resulting in some environmental testimony appearing in November rather than January. This was felt

unfair to public interest groups in that it shortens lead time for preparation of cross-examination, and may result in some planned witnesses being unavailable. In addition, some technical testimony on which some environmental testimony should be based would not yet have been presented. In issue No. 15, November 8, 1976, a partial accommodation is reported in that the evidence of the public interest groups need not be presented until January, thus negating the concern of unavailability of some witnesses, but lead time on cross-examination remained curtailed. On October 22, it was revealed that economic feasibility of the project has yet to be determined, and may not even be ready until after the hearings are over! Update No. 16 (November 22, 1976) contains testimony to the effect that the economics and final construction design are not complete. The Federal Power Commission hearings on Prudhoe Bay gas are expected to end by December 1976, with Judge Litt's report in February, and decisions by the Federal Power Commission by May 1, 1977, the President by September 1, 1977, and Congress by November 1, 1977. Update No. 17 (December 13, 1976) consists of a long discussion to the effect that the Arctic Gas proposal will almost surely be delayed one year, primarily because of their applications to U.S. and Canadian Governments for backstop financing guarantees. The newsletter continues with considerable argument as to why no such guarantees should be provided by either government.

Swan Hills:- As yet no official government action has been taken on the Edmonton Chapter of N.P.P.A.C.'s resolutions concerning the Swan Hills (which were supported by FAN). However, Graham Griffiths has kindly advised the Editor (pers. comm. 19 Dec., 1976) that the Public Advisory Committee to the ECA formally supported the proposal at their November meeting, with the support of the Mayor of Whitecourt. We shall keep readers informed of further developments as they occur.

Canadian Threatened Species:- According to the January 1977 issue of the Bulletin of the Manitoba Naturalists Society, The Canadian Wildlife Federation was planning to release a list of 41 threatened species for Canada in December, 1976. We have not seen this list at this time, so do not know its full contents.

Nongame Birds Important to Economy:- John M. Powell sent in a news item, courtesy of Yasu Hiratsuka, reporting a Massachusetts study which showed that people who enjoy nongame birds spent \$500 million in 1974, as compared to \$300 million spent by waterfowl hunters in the same period (I presume the area covered is the U.S.A. or some major portion thereof). The full reference is: Payne, B.R., and R.M. DeGraaf. 1975. Economic values and recreational trends associated with human enjoyment of nongame birds. In Symp. Manage. For. & Range Habitats Nongame Birds. Proc. USDA For. Serv. Gen. Tech. Rep. WO-1: 6-10. Washington, D.C.

GCOS Faces Seven Pollution Charges:- A report in Environment News 5(1): 3, Dec., 1976 notes that Great Canadian Oil Sands Ltd. has been charged with six violations of the Clean Air Act of Alberta and one violation of the Fisheries Act of Canada in connection with operation of its plant near Fort McMurray. The trial was scheduled for February 21, and was expected to last four days.

Oldman River to be Dammed?:- An article in Environment News 5(1): 12-14, Dec. 1976 discusses the pros and cons of a dam on the Oldman River. A preliminary proposal has been severely criticized by local citizen groups. The Environment Conservation Authority is to hold hearings on the issue, but the date appears not to have been announced as yet.

Banff - Parks for Tomorrow 4(5): 2-3, 1976 contains two news items concerning Banff National Park. The first is that the National and Provincial Parks Association of Canada has sent a strongly worded brief to the Federal government opposing the proposed Sunshine development and denouncing the rushed timetable for public response to it. The second item notes that the Provisional Administrative Board of the townsite (to exist until 1977) has submitted its recommendations concerning management of the townsite to Warren Allmand, the Minister currently in charge of National Parks. N.P.P.A.C. is currently studying this report for comment.

Provincial Parks:- According to Parks for Tomorrow 4(5): 8, planning for Cypress Hills Provincial Park will continue this year, with further public meetings. Public meetings were held last fall in several Alberta cities. Master planning is also underway for Writing-on-Stone and Dinosaur Provincial Parks, but methods of public participation have not yet been announced.

NOTES AND NEWS

Edmonton Rare Bird Alert:- A Rare Bird Alert system, whereby interested observers are telephoned whenever a species rare in Alberta is sighted, was established in Edmonton last fall (1976). Twenty-two people are listed on the Alert's first listing. Observers wishing to be added should contact Terry Thormin (482-2831). Ian Halladay is the Alert's Calgary contact.

Changes in Bird Names:- The October 1976 issue of the Auk contains the "Thirty-third supplement to the American Ornithologists' Union Check-list of North American birds" (pp. 875-879), consisting entirely of changes in the Latin names. Those affecting Alberta birds are as follows: Branta nigricans is considered a subspecies of Branta bernicla, and thus becomes Branta bernicla nigricans. Black Brant remains the vernacular name for the subspecies. This brings the check-list up to date with most modern useage in waterfowl literature and non-North American bird literature. The Salts had already conformed to this useage in the new "Birds of Alberta." Himantopus mexicanus, the Black-necked Stilt, becomes H. mexicanus mexicanus to accommodate addition of two additional races, formerly considered separate species. Hydroprogne is merged in Sterna, although retained as a subgenus. Thus the Caspian Tern becomes Sterna caspia. Similarly, Speotyto is merged in Athene but retained as a subgenus. Thus the Burrowing Owl becomes Athene cunicularia. Asyndesmus is merged in Melanerpes. Thus Lewis's Woodpecker becomes Melanerpes lewis. Likewise, Dendrocopus is merged in Picoides, with Hairy and Downy Woodpeckers becoming Picoides villosus and Picoides pubesce respectively. In

the Passerines, Telmatodytes is merged in Cistothorus, so the Long-billed Marsh Wren becomes Cistothorus palustris. Acanthis and Spinus are retained as subgenera but merged into Carduelis, as used in most literature outside North America. Thus the Hoary and Common Redpolls become Carduelis hornemanni and Carduelis flammea respectively, and the Pine Siskin and American Goldfinch become Carduelis pinus and Carduelis tristis respectively.

Swan Hills Book in Second Print:- We are pleased to note that the book "Western Swan Hills" of the Edmonton Chapter of the National and Provincial Parks Association has gone to a second printing, according to the October 1976 newsletter of the chapter. Interested persons should contact Graham Griffiths, 10642 - 84 Avenue, Edmonton, Alberta (phone 439-6770) to purchase a copy. Reviews of the book have been published in 1976 issues of the Alberta Naturalist (L. Lohr), Calgary Field Naturalist (J.W. Case), and Edmonton Naturalist (M.K. McNicholl).

Sadler-Myres Book Available at Last!:- After a long publishing delay, "Alberta birds, 1961-1970" by T.S. Sadler and M.T. Myres is at last available (see Dave Spalding's museum column above). The book is published as Provincial Museum of Alberta Occasional Paper No. 1 (1976), and sells for \$3.25. A review will be published in the Alberta Naturalist.

A Parliament of Owls:- As noted in Dave Spalding's column in this issue, the Provincial Museum recently held an art display on owls. John Alway, Geoff Hogan, Brian Marten and the Editor visited the display on December 18th, finding a room full of mounted owls in the center, surrounded by paintings and drawings by 12 Alberta artists. Recordings of owls were played continuously as we viewed the exhibits. The quality of the art ranged from poor to excellent, as might be expected with such a range of artists. Media included water colour, pen and ink, acrylic on driftwood, oils on linen, oils on canvas, handcoloured print, opaque watercolour, and pencil. Artists represented were Rick Berg, Ludo Bogaert, Patricia Brown, Denys Cook, Dick Dekker, Deirdre Griffiths, Peter Karsten, Adam Kanarski, Sylvia Lenzner, Jacqueline Murray-Hall, Jill Owen-Flood, and Al Smith. A handout by Ludo C. Bogaert and

D.V. Chip Weseloh was available.

Haig-Brown Passes:- We regretfully note the death of Judge Roderick L. Haig-Brown of Campbell River, B.C., as announced in the December 1976 issue of the Federation of British Columbia Naturalists Newsletter. Judge Haig-Brown was one of Canada's foremost conservationists and Honourary President of the Fed. of B.C. Naturalists.

W. Ray Salt Receives Second Loran L. Goulden Award:- The second annual Loran L. Goulden Memorial Award for outstanding work in natural history within the Province of Alberta was awarded to Prof. W. Ray Salt at the Annual General Meeting of the Edmonton Natural History Club on January 11, 1977. Prof. Salt's many contributions to the ornithology of Alberta, and especially as Senior Author of three books on the Birds of Alberta, were cited as particularly noteworthy achievements. The influence of these works on the education of the Alberta naturalists and citizens at large was deemed especially praiseworthy. Further details will appear in the June 1977 Alberta Naturalist.

Martin K. McNicholl, Chairman
Loran L. Goulden Memorial Award
Selection Committee

Banding Flashback - Inland Bird Banding News 48(5), 1976 contains a reprint of the journal's first issue, published in June, 1929. Alberta was then included in the Inland Bird Banding Association area, but is now within the Western Bird Banding Association area. At that time there were nine banders in Alberta, one of which, Frank Farley of Camrose, served as a Councillor of the association.

Canadian Nature Federation 1977 Meeting:- The 1977 CNF conference will be held in Regina, Saskatoon on August 25th and 26th, with the theme, "Nature and Change on the Canadian Plains." The CNF Board will meet on August 24th.

Bob Lister Wins Award:- The Editor was extremely pleased to learn that The Edmonton Bird Club chose Bob Lister as recipient for its first award for significant contributions to the ornithology of the Edmonton area. Even ignoring his scientific papers, work for the Bird Club, work with the late W. Rowan, and forthcoming book on the birds of Beaverhill Lake, Bob's many years of writing the bird column in the Edmonton Journal alone make him the logical choice for this first award of its kind. Congratulations, Bob, to a most deserving awardee.

REQUEST FOR INFORMATION

The Canadian Wildlife Federation is currently compiling a collection of photographs and slides of various species and subspecies of Canadian wildlife for educational purposes. Four taxa are requested from Alberta as follows:

Northern Rocky Mountain Wolf, Canis lupus irremotus

Wood Bison, Bison bison athabasca

Banff Longnose Dace, Rhinichthys cataractae smithi

Whooping Crane, Grus americana

If you can help, please write:

Valerie Shore
Research Biologist
CWF Research Department
1673 Carling
OTTAWA, Ontario K2A 1C4

IN THE NEXT ISSUE

Once again, we are in the happy position of having more than enough material for an issue of the Alberta Naturalist. The June

issue will, therefore, contain the following articles, already at hand:

Meredith, D.H. Of Chipmunks and mountains.

Butot, R. Black-capped Chickadees meet Northern Shrike - the deadly silence.

Ronaghen, A. Oo-cut-tux.

Shaw, K. Flora of Woolford Provincial Park.

Nelson, J.S. The postglacial invasion of fishes into Alberta.

McNicholl, M.K. Naturalists' Bookshelf (30). Prairie birds in color, by Doug Gilroy.

In addition, the June issue will contain a cover story by Prof. W. Ray Salt, an article on the work of Prof. Salt, and a report on the 1976-1977 Christmas Bird Counts in Alberta by D.V. (Chip) Weseloh.

Important Notice:- The June issue will contain black and white photographs and drawings on an experimental basis. Colour slides will not be accepted at present, but will be accepted in some form in the near future. Policy on this will be formulated following the results of the June issue.

Crests:- FAN crests are now available, showing the Great Horned Owl. These are circular, about three inches in diameter, available for \$2.00 each from Box 1472, Edmonton, T5J 2N5 or from your local Natural History club.

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Deadlines for submission of material to the Editor are: February 1, May 1, August 1 and November 1. Please include your address. All maps, charts, etc., should be submitted on white paper, of the appropriate size for publication, preferably done in type and/or india ink.

FAN membership fees are \$3.00 per year regular, \$10.00 supporting, tax deductible (\$7.00 worth). Mail remittance to: Federation of Alberta Naturalists, Box 1472, Edmonton, Alberta T5J 2N5.

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